Coordinated Water System Plan
Part I: Final Water Supply Assessment

Eastern Connecticut Public Water Supply Management Area

December 14, 2016

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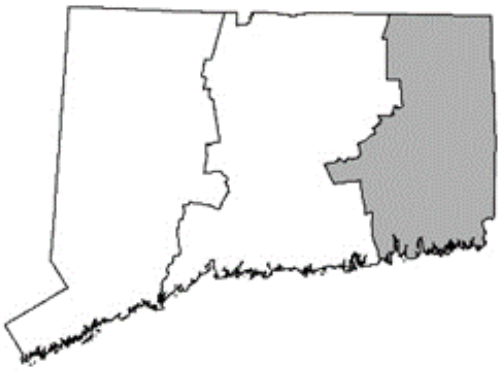

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NOTICE TO READERS

This document was prepared under a grant from the United States Environmental Protection Agency (EPA) administered by the Connecticut Department of Public Health. Points of view or opinions expressed in this document are those of the Eastern Water Utility Coordinating Committee and do not necessarily represent the official position or policies of the EPA or the Connecticut Department of Public Health.

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Laurel Loch Campground	Town of Preston
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DEFINITIONS

Areawide Supplement – A part of a coordinated water system plan that addresses areawide water system concerns pertaining to the public water supply management area that are not otherwise included in each water company's individual water system plan. The supplement identifies the present and future water system concerns, analyzes alternatives, and sets forth means for meeting those concerns. An areawide supplement consists of a water supply assessment, exclusive service area boundaries, integrated report, and executive summary.

Available Water – The maximum amount of water a company can dependably supply, taking into account the following reductions applied to safe yield: any limitations imposed by hydraulics, treatment, well pump capabilities, reductions of well yield due to clogging that can be corrected with redevelopment, transmission mains, permit conditions, source construction limitations, approval limitations, or operational considerations; and the safe yield of active sources and water supplied according to contract, provided that the contract is not subject to cancellation or suspension and ensures the availability of water throughout a period of drought and is reliable.

Coordinated Water System Plan – The individual water system plans of each public water system within a public water supply management area, filed pursuant to Section 25-32d of the Connecticut General Statutes, and an areawide supplement to such plans developed pursuant to Connecticut General Statute 25-33h that addresses water system concerns pertaining to the public water supply management area as a whole.

Exclusive Service Area – An area where public water is supplied by one system. Exclusive Service Area boundaries comprise Part 2 of the areawide supplement.

Executive Summary – An abbreviated overview of the coordinated water system plan for the public water supply management area that summarizes the major elements of the coordinated water system plan. The Executive Summary comprises Part 4 of the areawide supplement.

Integrated Report – An overview of individual public water systems within the management area that addresses areawide water supply issues, concerns, and needs and promotes cooperation among public water systems. The report comprises Part 3 of the areawide supplement.

Major Facilities – Components that are typically necessary for a system to provide public water service. These include sources of supply, treatment facilities (including transfer pumps to move water into the distribution system), distribution pumping stations (to move water in the distribution system to a higher hydraulic grade line), and storage facilities.

Maximum Contaminant Level Violation – Maximum Contaminant Levels (MCL) are standards that are set by the United States EPA for drinking water quality. An MCL is the legal threshold limit on the amount of a substance that is allowed in public water systems under the Safe Drinking Water Act. A violation occurs when the threshold limit is exceeded for a sample.

Monitoring Violation – Failure of a public water system to perform the required sampling for a substance per the water quality sampling schedule set by the Connecticut Department of Public Health.

DEFINITIONS (CONTINUED)

Public Water Supply Management Area – An area for coordinated water supply planning determined by the Commissioner of the Department of Public Health to have similar water supply problems and characteristics.

Public Water System – Any private, municipal, or regional utility supplying water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serving an average of at least 25 people daily for at least 60 days per year. Types of regulated public water systems are discussed below:

Community Water System (CWS) – A public water system that regularly supplies water to at least 15 service connections or at least 25 of the same population year-round. Examples include residential subdivisions, cluster-housing projects, homeowners associations, municipalities, tax districts, apartment buildings or complexes, residential and office condominium developments, elderly housing projects, convalescent homes, and trailer or mobile home parks.

Non-Community Water System – A public water system that serves at least 25 persons at least 60 days per year and is not a Community or seasonal water system.

Non-Transient Non-Community (NTNC) Water System – A public water system that regularly supplies water to at least 25 of the same people over 6 months per year and is not a Community Water System. Some examples are schools, factories, office buildings, and hospitals that have their own water systems.

Seasonal Water System – A public water system that operates on a seasonal basis for 6 months of the year or fewer. These are typically regulated as Non-Transient Non-Community Water Systems unless sufficient service is available to meet the definition of a Community Water System and often include campgrounds and shorefront communities.

Transient Non-Community (TNC) Water System – Any Non-Community Water System that does not meet the definition of a Non-Transient Non-Community Water System. It is a public water system that provides water in a place such as a gas station or campground where people do not remain for long periods of time.

Safe Yield – The maximum dependable quantity of water per unit of time that may flow or be pumped continuously from a source of supply during a critical dry period without consideration of available water limitations. The safe yield calculation for a source does not take into consideration any potential impacts to the environment.

Satellite Management – Management of a public water supply system by another public water system.

Water Supply Assessment – An evaluation of water supply conditions and problems within the public water supply management area. The evaluation is Part 1 of the areawide supplement.

DEFINITIONS (CONTINUED)

Water Utility Coordinating Committee – A committee consisting of one representative from each public water system with a source of supply or service area within the public water supply management area and one representative from each regional planning agency within the public water supply management area, elected by majority vote of the chief elected officials of the municipalities that are members of such regional planning agency.

ABBREVIATIONS

CDA	Capacity Development Assessment
CGS	Connecticut General Statute(s)
CWC	Connecticut Water Company
CWS	Community Water System
DEEP	Department of Energy & Environmental Protection
DOT	Department of Transportation
DPH	Department of Public Health
EPA	Environmental Protection Agency
ESA	Exclusive Service Area
GPCD	Gallons per Capita per Day
GPD	Gallons per Day
GPM	Gallons per Minute
MCL	Maximum Contaminant Level
MG	Million Gallons
MGD	Million Gallons per Day
mg/l	Milligrams per liter
MMI	Milone & MacBroom, Inc.
MPTN	Mashantucket Pequot Tribal Nation
MTBE	Methyl-Tert Butyl Ether
MTUA	Mohegan Tribal Utility Authority
NECCOG	Northeastern Connecticut Council of Governments
NPU	Norwich Public Utilities
NTNC	Non-Transient Non-Community
OPM	Office of Policy and Management
POCD	Plan of Conservation and Development
PURA	Public Utilities Regulatory Authority
PWSID	Public Water System Identification Number
PWSMA	Public Water Supply Management Area
RCSA	Regulations of Connecticut State Agencies
SECCOG	Southeastern Connecticut Council of Governments
SCWA	Southeastern Connecticut Water Authority
SOC	Synthetic Organic Chemical
SWAP	Source Water Assessment Program
TNC	Transient Non-Community
µg/l	micrograms per liter
VOC	Volatile Organic Compound
WPCA	Water Pollution Control Authority
WSA	Water Supply Assessment
WSP	Water Supply Plan
WUCC	Water Utility Coordinating Committee

EXECUTIVE SUMMARY

Introduction

The Connecticut General Statutes require that the Commissioner of Public Health convene a WUCC for each Public Water Supply Management Area (PWSMA) to implement a coordinated drinking water supply system planning process. Three PWSMAs are defined in Connecticut, geographically divided into the Western, Central, and Eastern Regions. A WUCC consists of one representative from each public water system with a source of water supply or service area within the PWSMA and one representative from each regional planning agency within such area who is elected by majority vote of the chief elected officials of the municipalities that are members of such regional planning agency.

A Coordinated Water System Plan is comprised of the individual water supply plans (WSPs) of the public water systems within the PWSMA that serve over 1,000 people or have 250 or more service connections and an areawide supplement that includes a Water Supply Assessment (WSA), delineation of Exclusive Service Area (ESA) boundaries, an integrated report, and an executive summary. The subject document represents the Final WSA for the Eastern WUCC region. The purpose of the WSA is to evaluate existing conditions and deficiencies within the PWSMA related to the provision of public water supply.

The Eastern WUCC convened on June 17, 2016 and held subsequent monthly meetings in July through December. Twenty-seven WUCC members have attended at least one meeting or provided comment on the process. All meetings have been noticed, and all have been open to the public.

Eastern Region Composition

The Eastern PWSMA is comprised of 35 municipalities within two Councils of Government (Northeast Connecticut and Southeastern Connecticut), and 615 public water systems. The region includes 142 community water systems, 121 Non-Transient Non-Community water systems, and 352 Transient Non-Community water systems. Twenty-five public water systems serve greater than 1,000 people or more than 250 connections.

Each municipality in the Eastern PWSMA contains at least one public water system. Some communities host an unusually large number of public water systems. For instance:

- Montville hosts 60 systems (including 27 community systems).
- North Stonington hosts 39 systems (including five community systems).
- Lebanon hosts 37 systems (including six community systems).
- Woodstock hosts 36 systems (including nine community systems).

The following towns host between 20 and 29 systems: Ashford, Colchester, Franklin, Killingly, Plainfield, Pomfret, Preston, Stonington, and Thompson. All of the municipalities except East Lyme, Hampton, New London, Putnam, Scotland, Sprague, Sterling, Union, and Waterford host 10 or more public water systems.

In many communities (Montville being a prominent example), the lack of a centralized public water system prior to the 1980s resulted in the proliferation of small public water systems, many of which are proximal. Interconnection, consolidation, and/or shared resources of these systems may be possible, resulting in increased system redundancy and/or enhancement of the ability to provide a pure and adequate water supply for their customers.

Finished Water Quality

The quality of drinking water supplied by public water systems in Eastern Connecticut to customers is generally excellent. The vast majority of violations are monitoring or reporting violations rather than MCL violations. Additionally, most violations are one-time occurrences. There are some areas where arsenic, uranium, radon, and other constituents are of concern.

System Reliability

System reliability of large public water systems in the Eastern PWSMA is considered generally good. Most public water systems serving greater than 1,000 people have multiple sources of supply and/or emergency/backup supplies. Fifteen out of 25 of these systems currently have interconnections with another system. Additionally, all of the large public systems serving greater than 1,000 people have emergency power availability, and all such systems have an average-day margin of safety that is greater than the recommended 1.15. Three such systems have a maximum month average-day margin of safety that is less than 1.15. Two systems have a peak-day margin of safety that is less than 1.15.

DPH has recently implemented a program known as the Capacity Development Assessment (CDA) for small community water systems that serve fewer than 1,000 people. Of the 107 small community systems in the Eastern PWSMA that have been assessed, 4 percent of the systems were rated to be lacking adequate capacity, 58 percent were rated to have moderate capacity, and 38 percent were rated to have adequate capacity. The long-term goal of the CDA program is to enable DPH to target specific types of assistance to individual small community water systems.

Existing and Future Sources of Supply

Seven of the 25 systems serving greater than 1,000 people maintain active reservoir supplies. Only three of these rely solely on reservoir supplies. Most of the public water served through these systems comes from groundwater supplies. Five systems that currently supply greater than 1,000 people have indicated a potential need for developing additional water supplies within the 5-year planning period as reported in their individual WSPs (dates of publication vary). Nineteen systems identify a potential long-term need (i.e., within the 50-year planning period). Seven report no short-term or long-term future supply needs.

Population and Land Use

Population centers within the Eastern PWSMA region include Groton, New London, Norwich, and Windham, with greater than 25,000 people. The lowest population areas within the region include Ashford, Bozrah, Chaplin, Eastford, Franklin, Hampton, Lisbon, North Stonington, Pomfret, Preston, Salem, Scotland, Sprague, Sterling, Union, and Voluntown, with fewer than 5,000 people according to the 2010 Census.

The vast majority of the Eastern PWSMA is considered rural, with concentrations of development along the Shetucket River Valley, the Quinebaug River Valley, the Thames River, and the shoreline. Growth trends in the region reflect the housing boom of the late 1990s and early 2000s, followed by the Great Recession and postrecession recovery in 2006 to 2015.

The regional suburban population is projected to experience steady growth, but the overall regional population may experience either growth or decline depending on the prediction model used. Regional rural areas are generally expected to see minimal population growth or even some decline through 2040.

Public water system population projections were taken from individual WSPs. These projections do not necessarily correspond to the same planning periods. For the long-range, 50-year planning period, most systems project modest increases or decreases in service area population. The exceptions are Montville Water Supply, projecting a 50-year planning period population increase of 5,737 people; the New London Department of Utilities, projecting a 50-year planning period population increase of 6,121 people; and Norwich Public Utilities, projecting an increase in service area population of 8,831 in the 50-year planning period. These three public water systems represent 49 percent of the regionwide projected service area population increase in the 50-year planning period.

Status of Planning

Most water utilities have a WSP that has been approved in the last 5 years. Some exceptions include the following:

- Connecticut Water Company (CWC) – Crystal, Gallup, Plainfield, and Thompson Systems – 2008 (approval pending)
- East Lyme Water & Sewer - 2007
- Groton Utilities – 2012 (approval pending)
- Ledyard Water Pollution Control Authority (WPCA) – Gales Ferry and Ledyard Center Systems – 2016 (approval pending)
- Mashantucket Pequot Tribal Nation (MPTN) Utilities – 2009 (approval pending)
- Montville Water Supply (WPCA) – 2015 (approval pending)
- New London Department of Utilities – 2005 (approval pending)
- Noank Fire District – 2009 (approval pending)
- Putnam WPCA – 2012 (modification pending)
- Southeastern Connecticut Water Authority (SCWA) – Mohegan, Montville, North Stonington, and Tower-Ferry Divisions – 2006 (approval pending)
- Sprague Water & Sewer Commission – 2012 (approval pending)
- Waterford Utilities Commission – 2016 (approval pending)

Plans of Conservation and Development have been prepared in all member municipalities. Most were adopted within the last 10 years. Exceptions (i.e., older plans) include Griswold, Hampton, Ledyard, New London, Pomfret, Scotland, Sprague, and Windham. Most of these were developed in the early to mid 2000s and are currently undergoing update.

Issues, Needs, and Deficiencies in the Region

Issues, needs, and deficiencies were identified in the following areas:

Sources of Supply

- Existing Supply Sources – Finding locations for replacement wells is challenging and expensive due to the cost of land, encroaching developments, permitting, and other factors.

- Future Supply Sources – Many systems do not have the ability to easily develop new sources of supply.

- Impacts of Climate Change – The resiliency of water systems to climate change and natural hazards is a significant concern. Future planning will be necessary to prepare for and respond to climate change.

- Impacts of Stream Flow Regulations – Several of the community water systems in the region subject to new stream flow release rules will experience impactful reductions in reservoir safe yields upon full implementation of the Stream Flow Regulations by 2026 or 2027. Future water supply sources may be needed to offset reductions in safe yield. Utilities may also choose to develop and enter into flow management plans with multiple parties.

- Impact of Future Anticipated Regulations – Implementing and complying with future regulations may be costly and may significantly affect the logistics of operating a public water system. Evolving water quality and water service standards, such as newly adopted disinfection byproduct and revised total coliform rules, and anticipated changes in the lead and copper rule have the ability to affect the use of existing supplies and/or impose significant treatment or other operating burdens on utilities.

- Source Water Protection – Members of environmental groups and the general public have urged the WUCC to protect Connecticut's environment and maintain pure drinking water supplies. Protection of the environment and protection of water supply sources in many ways are mutually beneficial. Source protection and environmental conservation, for instance, are harmonious throughout many drinking water supply watersheds and groundwater aquifers. Continued land development and the need to address issues that cross-jurisdictional boundaries are of particular interest regarding watershed lands.

- Raw Well Water Quality – The raw water pumped from water supply wells to be utilized for public drinking water in the region tends to be variable with respect to quality and quantity. Elevated concentrations of arsenic, radioactive elements, and/or iron and manganese are prevalent in certain public water system well supplies, and treatment can be costly. Poor water quality and legacy contamination may present a disproportionate burden on small community water systems and non-

community water systems, and poor well water quality may necessitate extending public water systems into areas served by private wells or creation of new public water systems in certain areas.

- Environmental Concerns Associated with Water Withdrawals – Members of environmental groups and the general public have voiced concern over the potential for environmental impact of water withdrawals from reservoirs and groundwater aquifers. For new withdrawals and for those previously permitted under the Water Diversion Act administered by the Connecticut Department of Energy & Environmental Protection (DEEP), potential environmental impacts are rigorously reviewed. Previously *registered* water diversions, including those for public drinking water supply, did not undergo environmental review. These withdrawals are grandfathered. The Coordinated Water System Plan must consider the potential impacts of the plan on other uses of water resources, including water quality, flood management, recreation, hydropower, and aquatic habitat issues. These will be considered in the Integrated Report. The Coordinated Water System Plan will not provide detailed, site-specific ecologic, hydrologic, or hydraulic analysis. Rather, potential impacts will be identified on a planning level, using existing mapping, data, and information. Such information will be considered in light of identified future supply sources and of future plans of how ESA providers plan to provide water supply to currently unserved areas.

Planning

- Coordination of Water Utility Planning – Coordination between community water systems with respect to various aspects of water supply such as shared use of equipment and technical staff is desirable from an operational and financial perspective. Improved coordination has the potential to greatly benefit smaller systems that may not have the financial ability to purchase equipment such as that required for spill response or emergency power. Finally, a key benefit of improved coordination among water utilities is the potential to establish a more organized and holistic approach to the exploration of future water supplies and interconnections.

- Coordination of Planning between Utilities and Communities – In some cases, state, regional, and local planners have limited understanding of the long-term planning goals of water utilities and vice versa. In addition, planning between water utilities and communities is typically performed in a staggered manner, with utilities reviewing current planning documents that may be several years old.

- Disjointed Service Areas – Numerous communities are served by multiple public water systems (whether privately owned or municipal or regional) that are located proximal to one another but not actively interconnected, which can result in higher cost of operation, lack of efficiency, and lack of redundancy. In some cases, the cost for a customer to purchase water can be significantly more expensive in one system than the other system despite the customer's proximity.

- Exclusive Service Areas – The northern communities within the Eastern PWSMA have not previously undertaken the assignment of ESAs. A well-planned assignment of ESAs in the region will help to address challenges that emerge in the future, including those described above regarding new and existing small systems as well as water quality challenges in some communities.

- Use of Current Data – The Coordinated Water System Planning process requires the use of current data, but many data sets are out of date or incomplete. These include WSPs (discussed in Section 6.1), plans of conservation and development (discussed in Section 6.2), publicly available data from

state agencies, and population projections (discussed in Section 5.3). In some cases, very little data is available to state agencies.

Interconnections

- Development of New Interconnections – New interconnections may be desired where not already present. This can help address water supply imbalances and increase redundancies that are desirable during water supply emergencies or droughts. Consideration should also be given to raw water interconnections to bolster surface water supplies during prolonged drought conditions.

- Movement of Water through Interconnections – The movement of water from areas of surplus to areas of need is not always straightforward. Potential barriers include water quality differences, pressure gradients, the challenges associated with diversion permitting, and/or lack of agreements for the movement of water. In the future, it may be desirable to facilitate new instances of active, daily transfers of water. However, concerns about the potential long-term environmental and economic development impacts of transfers of water into or out of a basin must be considered. Emergency interconnections, which exist solely to address short-term events, are an opportunity to provide critical supply redundancy with minimal long-term impact.

Small Water Systems

- Challenges of Operating Small Systems – Many municipalities and privately owned public water utilities own and operate numerous small systems. Operational requirements such as regulatory permitting, technical assessment, system maintenance, infrastructure replacement, and water supply require a disproportionate amount of time and money compared to the operation of a larger system. In particular, the lack of proper planning and/or asset management planning for many small community water systems (particularly a lack of knowledge regarding the full cost of providing a safe and reliable supply of drinking water) has resulted in systems with limited financial capacity to address public health code issues.

- New Public Water Systems – The need for new public water systems in the region is largely driven by development and water quality concerns. Not all areas can be easily served by water main extensions and system expansions, and creation of new systems can be difficult and costly.

- Viability of Small Water Systems – The number of small public water systems in the region is not viewed as an issue per se. However, the viability of these systems is an issue of concern, particularly in areas where the density of small systems is moderate to high. Additionally, the operation of small water systems immediately adjacent to larger systems can result in a disparity of the cost of water among populations in close proximity, especially when small systems fail to fully fund their water system operations. The cost of interconnecting small systems can be prohibitive or at the very least a disincentive. More fully understanding the technical, managerial, and financial capacity of small systems to provide water supply is of interest.

Water Usage

- High Water Usage by Agricultural, Industrial, and Power Generation Facilities – Some agricultural, industrial, and power generation facilities require substantial water commitments from nearby public water systems for active daily supply as well as potential peaking supply, and there is often a

large discrepancy between these figures. Some of these facilities do not require potable water and may be better served by nonpotable water.

- Declining Revenue and Increasing Costs – Some water systems are experiencing a trend of decreasing average-day demands. With continued conservation, the decline of industry, and the housing market decline of the Great Recession, water systems have been challenged by declining revenue. Because of the high fixed-cost requirements of public water systems, this has, in some cases, negatively impacted levels of service and made paying for infrastructure more challenging.

- Increasing Ratio of Peak-Day Demands to Average-Day Demands – Some water systems are experiencing a trend of decreasing average-day demands along with an increase in peak-day demands. This negatively impacts the ability to manage sources and treatment facilities in some systems and points to a need for conservation during peak-day conditions. This is often the case during the summer months coincident with irrigation and water-intensive recreational activities. Although reservoir systems are typically better able to handle increased peak-day demands than groundwater systems from a supply perspective (provided adequate treatment capacity exists), increased peak-day usage by reservoir systems is of concern to DPH as overuse of surface water sources can result in taste and odor complaints, elevated levels of cyanotoxins, and other water quality concerns.

- Infrastructure – Water infrastructure is aging, with the cost of replacement, the need for asset management, and mechanisms for funding being shared across small and large systems alike. Replacement cycles are getting longer, and infrastructure is getting older and more vulnerable to failure.

- Lack of Fire Protection – The eastern fringe of the Central region relies on ponds, dry wells, and cisterns for fire protection. These approaches will continue in most of the rural and less densely populated areas but may not be desired in specific areas that would benefit from increased protection afforded by a public water system with storage and adequate pressure. Additionally, some parts of the region are already served by public water systems where hydrants are installed, but pressures are currently insufficient for fire flows.

- Lack of Funding – A continued lack of access to capital improvement funding has delayed desired projects in the region. The Drinking Water State Revolving Fund 2011 Needs Survey identified $3.5 billion in infrastructure replacement needs over the next 20 years, and the 2015 survey results to be published in spring 2017 are expected to be even higher.

- Water Conservation – Water conservation is an important element of sound public water system operation and has long been a focus of the DPH and of public water systems. Every public water system that serves greater than 1,000 people has prepared a comprehensive water conservation plan. Members of environmental groups and the general public have voiced their support for continued and diligent water conservation efforts and initiatives. While larger systems track unaccounted-for water to determine leakage and waste, many smaller systems have minimal meter readings, and the amount of lost or wasted water is unclear. Continuing education will be necessary within both small and large systems to inform users of conservation methods. Water conservation is also an issue with some systems where declining revenues are already negatively impacting revenue requirements.

- Enactment of Voluntary and Mandatory Conservation Measures – The recent droughts in Connecticut have raised public awareness of voluntary and mandatory water conservation measures, which are enacted by many utilities to reduce demands during a drought. One issue raised by the public as part of the recent widely reported and protested commercial bottling plant in Bloomfield was whether commercial/industrial users should be completely shut off prior to limiting water for residential customers.

These and other issues that may arise during the Coordinated Water System planning process will be evaluated in the Integrated Report, including existing and future projected population, existing and alternative water supplies, source protection, water conservation, existing and potential interconnections, system ownership and management, satellite management/ownership issues, minimum design standards, financial considerations, potential impacts on other uses of water resources, and land acquisition for source water protection.

1.0 INTRODUCTION

1.1 The Coordinated Water System Planning Process

Connecticut's public water supply planning process was prompted by the state's extended drought in the early 1980s. During the 1985 legislative session, the Connecticut General Assembly passed Public Act 85-535, "An Act Concerning a Connecticut Plan for Public Water Supply Coordination," initiating the first statewide water supply planning program. The Connecticut DPH in consultation with the Public Utilities Regulatory Authority (PURA), DEEP, and Office of Policy and Management (OPM) was given the charge of developing a coordinated approach to long-range water supply planning to assure future supplies. The legislative finding, as reflected in Section 25-33c of the CGS, states the following: "In order to maximize efficient and effective development of the state's public water supply systems and to promote public health, safety, and welfare, the DPH shall administer a procedure to coordinate the planning of public water supply systems."

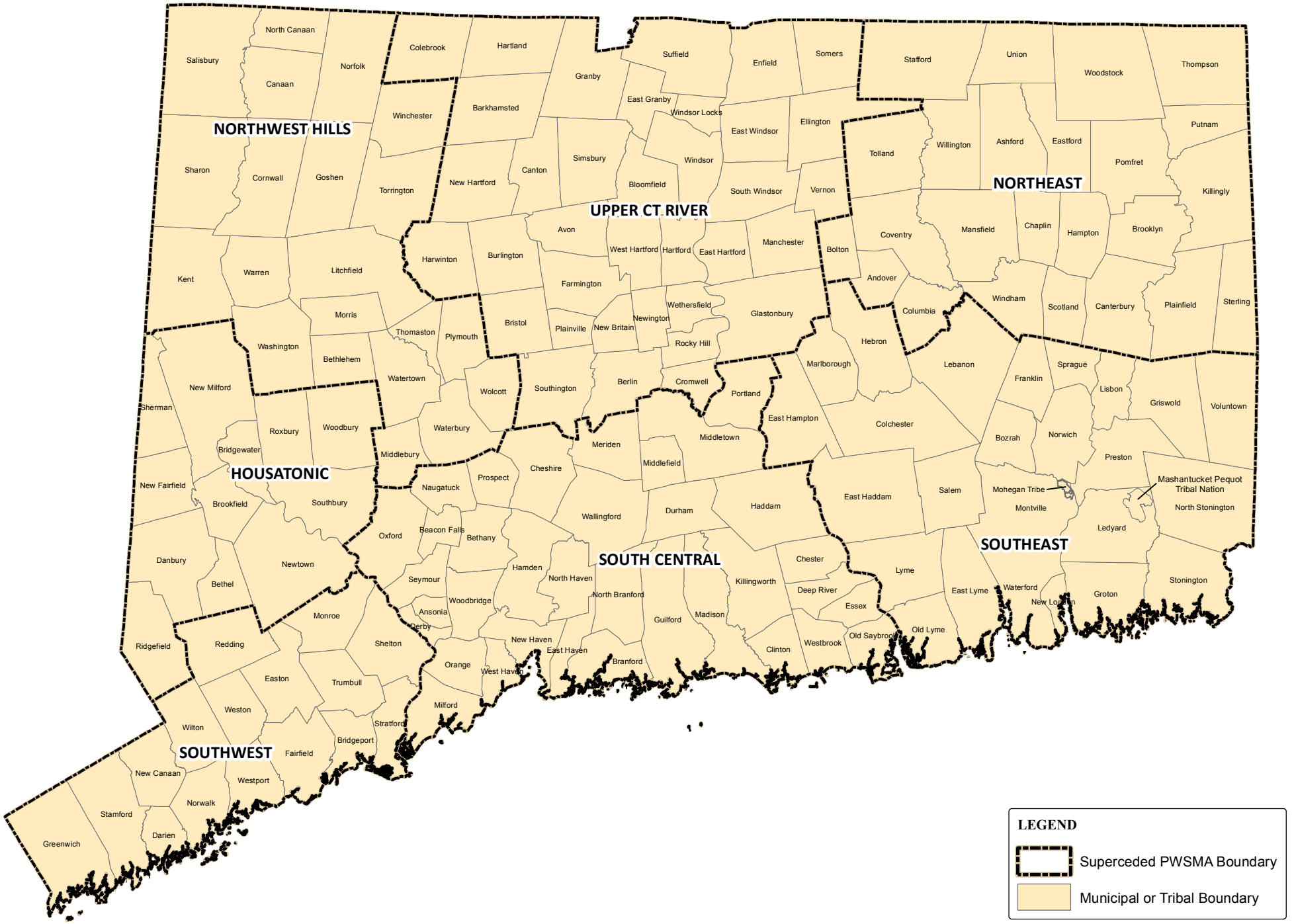
Pursuant to Public Act 85-535 and Section 25-33e of the Connecticut General Statutes (CGS), the boundaries of seven Public Water Supply Management Areas (PWSMAs) were delineated based upon the similarity of water supply issues, population density and distribution, existing sources of public water supply, service areas or franchise areas, existing interconnections between public water systems, municipal and regional planning agency boundaries, natural drainage basins, and similar topographic and geologic characteristics. The boundaries of the seven PWSMAs originally established in 1986 are delineated on Figure 1-1.

The CGS require that the Commissioner of DPH convene a WUCC for each PWSMA to implement the areawide water supply planning process. A WUCC consists of one representative from each public water system with a source of water supply or service area within the PWSMA and one representative from each regional planning agency within such area who is elected by majority vote of the chief elected officials of the municipalities that are members of such regional planning agency.

Four of the seven WUCCs were convened under the previous planning process, as outlined below:

- The Housatonic Area WUCC convened in June 1986.
- The Upper Connecticut River Area WUCC convened in March 1987.
- The South Central Area WUCC convened in November 1987.
- The Southeastern Area WUCC convened in August 1998.
- The Northeast Area WUCC, Northwest Hills Area WUCC, and Southwest Area WUCC never convened.

The DPH began considering consolidation of the PWSMAs and reconvening the WUCCs since at least 2009. As stated in its 2014 annual report regarding the WUCC process:



SOURCE(S):
CT DPH 2016

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FIGURE 1-1: ORIGINAL PWSMAs

WATER SUPPLY ASSESSMENT

LOCATION: STATE OF CONNECTICUT

Map By:	SJB
MMI#:	1017-05-02
Original:	7/18/2016
Revision:	7/18/2016
Scale:	1 in = 54,000 ft

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"The lack of approved WUCC management area coordinated plans remains a basic need that must be addressed for state drinking water planning success. The legislation envisioned coordinated plans would be revised every ten years and convened management area's coordinated plans were not updated primarily due to lack of available state funds. Iterative planning processes require constant vigilance and regular updates to reflect change. Current, accurate coordinated plans are needed to reflect changes over the past two decades to the economy, individual public water system plans, local and regional planning, and environmental impacts to supply adequacy that will result from new reservoir releases required by state Stream Flow Standards and Regulations.

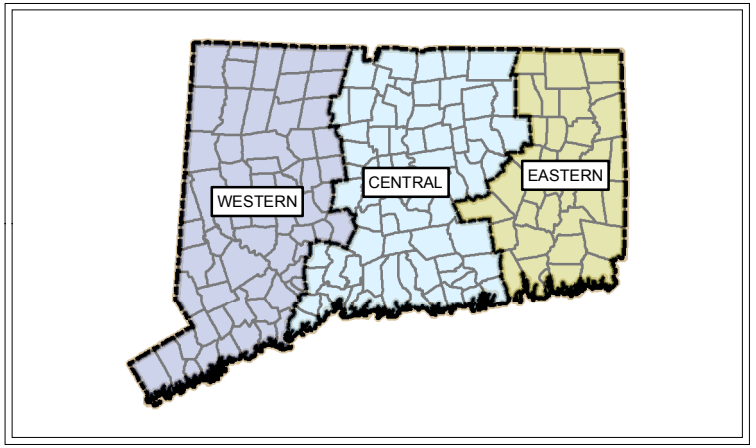
In 2011, a WUCC advisory group was convened to discuss historic problems, current shortcomings, and make recommendations for improvements. Recommendations provided were to sizably increase stakeholder and municipal involvement and to improve coordination between public water systems and the municipalities served. Management area consolidation was recommended given the current costs associated with preparing seven WUCC management area coordinated plans for the state's small footprint. The group recommended that WUCC consolidation efforts consider the state's regional planning boundaries to encourage increased municipal involvement and that current, accurate technical data be used to demonstrate system adequacy prior to granting state approved Exclusive Service Area designations."

Based on the needs identified by DPH and the WUCC advisory group, the number of PWSMAs was consolidated from seven to three in October 2014 following a public comment period from April to July 2014. The boundaries of the Western Connecticut, Central Corridor, and Eastern Connecticut PWSMAs are shown on Figure 1-2. Each PWSMA boundary is consistent with the recently realigned regional planning agency boundaries completed by OPM. The WUCC representing each PWSMA convened on the following schedule with the goal of developing new coordinated water system plans as presented in Table 1-1:

- The Western Connecticut WUCC convened on June 14, 2016.
- The Central Corridor WUCC convened on June 15, 2016.
- The Eastern Connecticut WUCC convened on June 17, 2016.

TABLE 1-1
Coordinated Water System Plan Components and Schedule

Component	Schedule from Convening of Eastern WUCC	Due Date
A. Individual Water Supply Plan	Not Applicable	Not Applicable
B. Areawide Supplement (Four Parts)	Within 24 Months	June 17, 2018
Part 1: Water Supply Assessment	Within 6 Months	December 17, 2016
Part 2: Exclusive Service Area Declaration	Within 12 months	June 17, 2017
Part 3: Integrated Report	Within 24 Months	June 17, 2018
Part 4: Executive Summary	Within 24 Months	June 17, 2018



KEY MAP: WUCC BOUNDARY
SCALE: N.T.S

LEGEND

WUCC REGION

- Central
- Eastern
- Western
- PWSMA Boundary

SOURCE(S):
CT DPH 2016

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FIGURE 1-2: EASTERN REGION PWSMA

WATER SUPPLY ASSESSMENT
EASTERN WUCC

LOCATION: STATE OF CONNECTICUT

Map By:	EB
MMI#:	1017-05-02
Original:	6/16/2016
Revision:	7/18/2016
Scale:	1 in = 40,000 ft

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1.2 Components of the Coordinated Water System Plan

A Coordinated Water System Plan is comprised of the individual water supply plans (WSPs) of the public water systems within the PWSMA that serve over 1,000 people or have 250 or more service connections, and an areawide supplement that includes a Water Supply Assessment (WSA), delineation of Exclusive Service Area (ESA) boundaries, an integrated report, and an executive summary. Each of the four WUCCs that previously convened produced such documents; only the Southeastern Area WUCC coordinated plan was approved by DPH. The purpose of the coordinated water system plan is to do the following:

1. Identify the present and future water system concerns.
2. Analyze alternatives.
3. Set forth a means for meeting the identified needs.

The major components of the Coordinated Water System Plan are described below:

Individual Water Supply Plans – Each Community Water System (CWC) that serves greater than 1,000 people or 250 service connections is required to prepare an individual WSP under Section 25-32d of the Regulations of Connecticut State Agencies (RCSA). The individual WSPs are in various stages of development and DPH approval, and the status of each plan within this PWSMA is described in greater detail in Section 6.0 of this document. The principal goals of individual water system planning as defined by the DPH are to do the following:

1. Ensure an adequate quantity of pure drinking water now and in the future.
2. Ensure orderly growth of individual water systems.
3. Make efficient use of available resources.

Water Supply Assessment – The subject document represents the WSA, the first of the four components of the areawide supplement. The purpose of the WSA is to evaluate existing conditions and deficiencies within the PWSMA. Per Statute, the Final WSA and associated mapping must be completed within 6 months of the convening of the WUCC. Per statute and regulation, the following six topics must be discussed within the WSA:

1. Description of existing water systems including the following:
    a. History of water quality, reliability, service, and supply adequacy
    b. General fire-fighting capability of the utilities
    c. Identification of major facilities that need to be expanded, altered, or replaced

2. Availability and adequacy of any future water source(s)

3. Existing service area boundaries and public water system limits established by statute, special act, or administrative decision, including a map of established boundaries and identification of systems without boundaries

4. Present and projected growth rates, including population data, land use patterns and trends, and identification of lands available for development

5. Status of water system planning, land use planning and coordination between public water systems

6. A discussion of regional issues, needs, and deficiencies

Documentation of proper notification regarding the convening of the WUCC and initiation of the WSA are included herein as Appendix A.

Exclusive Service Area Declaration – Pursuant to Paragraph (d)(2)(B) of Section 25-33h-1 (Regulations Concerning Coordinated Water System Plans), "the WUCC shall prepare preliminary and then final exclusive service area boundaries." An ESA is an area where public water is supplied by one system. Numerous factors are considered in determining ESA boundaries, including existing service areas; land use plans, zoning regulations, and growth trends; physical limitations to water service; political boundaries; water company rights as established by statute, special act, or administrative decision; system hydraulics, including potential elevations or pressure zones; and ability of a water system to provide a pure and adequate supply of water now and into the future. Such boundaries may not be delineated until the WSA is final.

Integrated Report – The Integrated Report is a long-term planning tool for the PWSMA. Various issues are evaluated in the Integrated Report, including existing and future projected populations, existing and alternative water supplies, source protection, water conservation, existing and potential interconnections, system ownership and management, satellite management/ownership issues, minimum design standards, financial considerations, potential impacts on other uses of water resources (including water quality, flood management, recreation, hydropower, and aquatic habitat issues), and land acquisition for proposed wells in stratified glaciofluvial deposits.

Executive Summary – The executive summary provides an abbreviated overview of the Coordinated Water System Plan for the PWSMA. It is a factual and concise summary of the major elements of the coordinated water system plan.

It is recognized that some water supply issues may cross PWSMA or state boundaries. Such issues will be addressed in the Statewide Coordinated Water System Plan, which will be developed immediately following the completion of the Coordinated Water System Plans for each of the three WUCCs.

1.3 Eastern Connecticut Public Water Supply Management Area

Figure 1-2 graphically depicts the Eastern Connecticut PWSMA. It contains all of the municipalities that are included in the Northeastern Connecticut Council of Governments (NECCOG) and Southeastern Connecticut Council of Governments (SECCOG) regional planning agencies.

The boundaries of the PWSMA are generally defined by the Massachusetts state boundary to the north, the Rhode Island state boundary to the east, and Long Island Sound to the south. The municipalities within the Eastern PWSMA are listed in Table 1-2, with municipalities along the western boundary called out with an asterisk as these communities may coordinate on water supply issues with municipalities or utilities in the Central PWSMA. In total, the Eastern PWSMA comprises 35 municipalities and two tribal governments (Mashantucket Pequot Tribal Nation [MPTN] and the Mohegan Tribe).

TABLE 1-2
Eastern PWSMA Municipalities and Tribal Governments

Eastern PWSMA Municipalities and Tribal Governments			
Ashford*	Groton	New London	Sprague
Bozrah	Hampton	North Stonington	Sterling
Brooklyn	Killingly	Norwich	Stonington
Canterbury	Lebanon*	Plainfield	Thompson
Chaplin*	Ledyard	Pomfret	Union*
Colchester*	Lisbon	Preston	Voluntown
Eastford	Mashantucket Pequot Tribal Nation	Putnam	Waterford
East Lyme*	Mohegan Tribe	Salem*	Windham*
Franklin	Montville	Scotland	Woodstock
Griswold			

*Denotes municipality that is on the border with the Central PWSMA

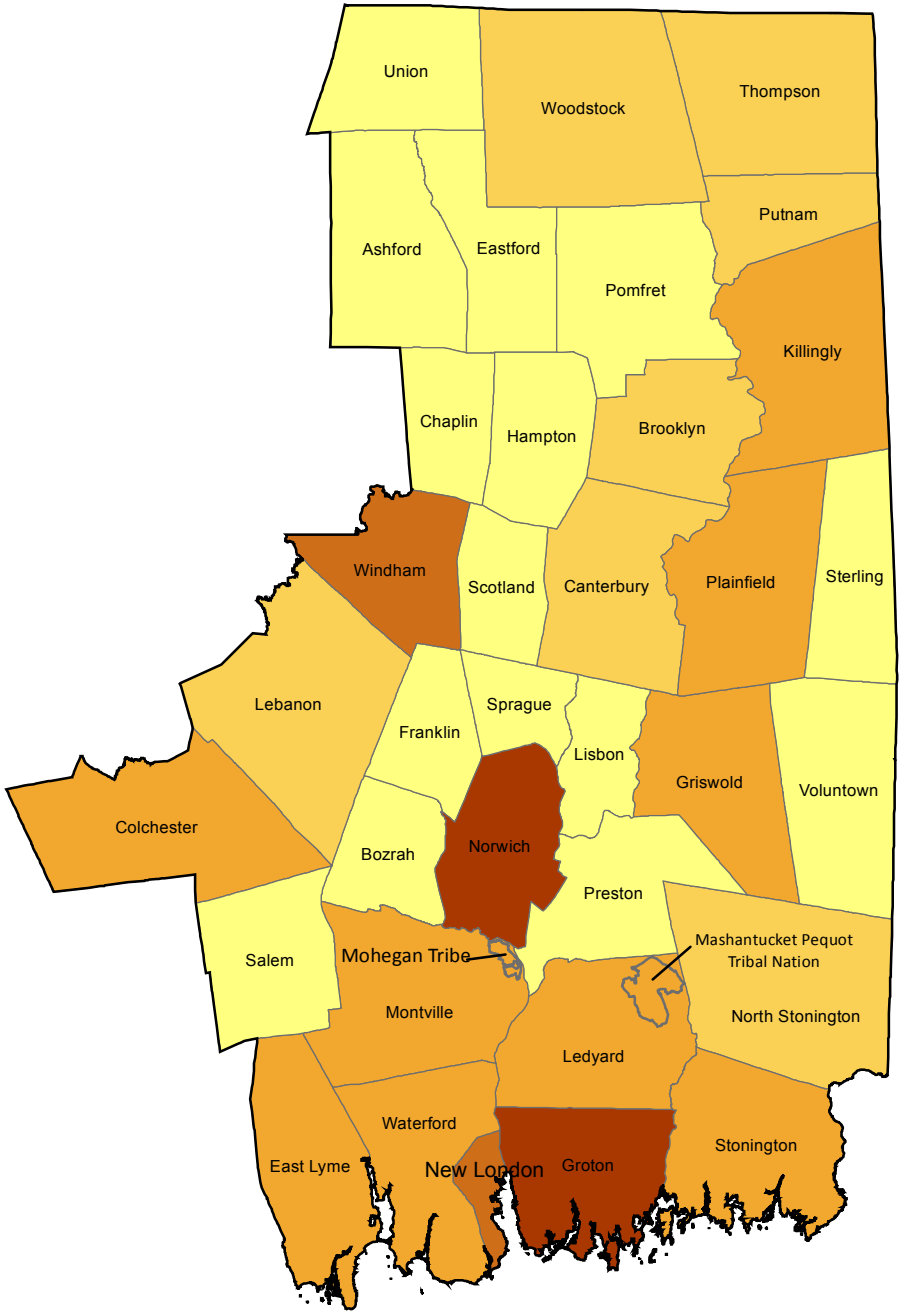
Population varies widely in the region. Based on the most recent census data, the smallest municipality is Union, with a 2010 population of 854. The largest municipality is Norwich, with a 2010 Census population of 40,493. Figure 1-3 depicts the distribution of population in the Eastern PWSMA by municipality.

The Eastern Connecticut PWSMA consists of 615 public water systems. Of these:

- 142 are regulated as CWSs.
- 121 are regulated as Non-Transient Non-Community (NTNC) water systems.
- 352 are regulated as Transient Non-Community (TNC) water systems.

Each municipality contains at least one public water system. The Environmental Protection Agency (EPA) classifies water system size based on the population served. The distribution of water system service population by system type is shown on Table 1-3. Note that DPH informally classifies systems serving greater than 1,000 people as "large" systems and any other systems as "small" systems. CWS sizes range from very small systems that serve, for example, apartments and convalescent homes to large municipal systems. NTNC water system sizes range from very small systems that serve small businesses to small systems that serve private schools with several hundred students. TNC water systems are typically very small systems serving gas stations or restaurants whereas larger systems may serve state parks.

Based on the information in Table 1-3, the majority of public water systems in the region serve fewer than 500 people. Only 43 systems (7% of the total systems in the Eastern PWSMA) serve more than 500 people. A total of 25 CWSs serve greater than 1,000 people and are therefore required to file and maintain an individual WSP. Many smaller systems are also covered in WSPs because utilities that are required to create an individual WSP typically include their smaller satellite systems.



LEGEND

2010 Municipal Population Data

- Population Less Than 5,000
- Population Between 5,000 and 10,000
- Population Between 10,000 to 20,000
- Population Between 20,000 to 40,000
- Population More Than 40,000
- Municipal or Tribal Boundary

SOURCE(S):
US Census Bureau

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FIGURE 1-3: POPULATION DISTRIBUTION BY MUNICIPALITY

WATER SUPPLY ASSESSMENT
EASTERN PWSMA
LOCATION: STATE OF CONNECTICUT

Map By:	SJB
MMI#:	1017-05-02
Original:	7/18/2016
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TABLE 1-3
Summary of Population Served in Eastern PWSMA by Public Water Systems

DPH Classification	EPA System Classification	Range of Population Served	Number of Community Water Systems	Number of NTNC Water Systems	Number of TNC Water Systems
Small	Very Small	< 51	32	32	309
	Very Small	51-100	32	33	27
	Very Small	101-250	26	14	9
	Very Small	251-500	21	17	6
	Small	501-1,000	4	13	1
Large	Small	1,001-3,300	12	2	0
	Medium	3,301-10,000	5	0	0
	Large*	10,001-50,000	10	0	0
	Large	50,001-100,000	0	0	0
	Very Large	> 100,000	0	0	0
		Total	**142**	**121**	**352**

*Count includes the Westerly Water Department although the majority of the service population is in Rhode Island.

The Eastern PWSMA of Connecticut falls into two geological areas, the eastern uplands and the coastal slope. The eastern uplands are characterized by narrow river valleys and low hills with land sloping downward from the northwest or northeast. Many areas are heavily forested, and others have rich soil that is generally good for farming. The coastal slope extends approximately 6 to 16 miles inland from the Long Island Sound and is characterized by lower ridges and beaches and harbors along the coast. This area is generally more densely populated than the northern parts of the region.

1.4 Eastern Connecticut Water Utility Coordinating Committee

Per statute, the Eastern WUCC is comprised of one representative from each public water system with a source of water supply or a service area within the Eastern PWSMA and one representative from each regional council of governments within the Eastern PWSMA. Per regulation, sources of supply within a PWSMA include reservoirs, wells, other water bodies, and associated watershed land; service area includes areas where a public water system currently provides service or has the authority to provide service as determined by legal rights, legislative franchises, municipal charters, or interlocal agreements for the sale of water.

The list of all eligible WUCC members for the Eastern PWSMA is presented in Appendix B. There are more than 600 eligible WUCC members in the Eastern PWSMA, with membership comprised of representatives from public water systems and two councils of government. It must be noted that many Eastern WUCC members own and/or operate more than one system. Based on the Bylaws and Work Plan developed by the Eastern WUCC, each utility that is an eligible WUCC member (not each public water system) will have one vote for those issues requiring votes. This prevents any one utility from dominating the WUCC by virtue of owning multiple systems within the PWSMA.

1.5 Information Sources

Data has been gathered from regulatory agencies, public water supply representatives, municipalities, and regional planning organizations. Much of the data collection effort was completed prior to convening the WUCC. Individual WSPs, municipal plans of development, regional planning documents, and population data published by the Connecticut Department of Transportation (DOT) were utilized as a starting point in the data gathering, compilation, and assessment process as well as DPH files and databases. This information was supplemented by telephone interviews and personal communications with individuals having an association with the region. Interaction with, and input from WUCC members and meeting attendees were also a critical component of data collection.

Following extensive file reviews, each CWS that produces an individual WSP in the Eastern PWSMA was contacted with a request to verify existing information and for additional information. Due to the size and regulatory requirements, there was generally more base information and better response from the systems serving greater than 1,000 people. Smaller CWSs were also contacted by DPH. The data for systems serving fewer than 1,000 people remains sparse in many instances due to the lack of available documentation and low rate of response to requests for specific facility information, particularly for the Non-Community public water systems. This is reflected in the text and tables throughout this document.

A Preliminary WSA for the Eastern Connecticut PWSMA was issued for public comment on September 14, 2016, with comments accepted through October 27, 2016. The Preliminary WSA must be issued for public comment as required by statute. The list of comments received during the public comment period is presented in Table 1-4, with written comments presented in Appendix E along with an indication of how and where edits were made to address the comments. In some cases, comments were received by telephone, and a summary of the comments is provided below.

TABLE 1-4
Summary of Comments Received on Preliminary Water Supply Assessment during Public Comment Period

Date	Commenter	Main Points
9/14/16	Aquarion Water Company	▪ Factual corrections to narrative and/or tables
09/16/16	Groton Utilities	▪ Factual corrections to narrative and/or tables
09/19/16	Ledyard WPCA	▪ Municipal survey responses
09/27/16	Town of Franklin	▪ Municipal survey responses
10/04/16	Rivers Alliance	▪ Identify "donor" towns (i.e., town location of source(s) of supply) ▪ Present data and information by town. ▪ Add town names on mapping for clarity. ▪ Present information on existing and planned interconnections in one place. ▪ Indicate the direction of water flow for interconnections. ▪ Provide both the donor and recipient when referring to interconnections. ▪ Provide additional information on identified future supply sources.

TABLE 1-4
Summary of Comments Received on Preliminary Water Supply Assessment during Public Comment Period

Date	Commenter	Main Points
10/18/16	Rivers Alliance	▪ There is a need for additional information on interconnections. ▪ What is the accuracy of reported water need? ▪ Sources should be disclosed. ▪ Need to assess reliability/viability of individual existing utility sources. ▪ Other comments regarding ESAs
10/19/16	Town of Thompson (First Selectman Ken Beausoleil via phone)	▪ Questions regarding ESA process ▪ Noted failing septic systems in Thompson Hill area could impact private wells
10/19/16	Lord Thompson Manor (Don Brown via phone)	▪ Questions regarding ESA process
10/19/16	Town of Franklin (First Selectman Rich Matters via phone)	▪ Questions regarding ESA process near areas with contaminated wells
10/20/16	DEEP	▪ Aggregation of data makes assessment of specifics difficult. ▪ It would be helpful to define certain terms. ▪ Clarify the differences/assumptions for population data. ▪ An effort to obtain input from additional municipalities is warranted. ▪ Discuss the State Aquifer Protection Area Program. ▪ Ensure that the state conservation and development policies are addressed throughout the planning process. ▪ Other items to consider during the ESA designations and Integrated Report
10/27/16	Roseland Terrace Water Association	▪ Questions regarding ESA process
Various/Undated	Individual Residents	There are no comments specific to the Preliminary WSA; rather, the letters convey the following sentiments: ▪ Prioritize environmental protection. ▪ Prioritize need for clean drinking water over corporate interests. ▪ Ensure quality and quantity of water is not compromised. ▪ Keep Connecticut's water in public trust. ▪ Require water conservation. ▪ Develop a regional water planning strategy. ▪ Provide ample opportunity for public comment.

2.0 EXISTING PUBLIC WATER SYSTEMS

2.1 Composition of the Region

Table 2-1 indicates the number and type of public water systems serving each municipality within the Eastern PWSMA. The following discussion provides a breakdown of existing public water systems in each municipality using the DPH informal classification of large and small systems presented in Table 1-3. Areas not served by these systems are served by private well and/or spring systems. Additional details regarding water service may be found by municipality on Appended Table 1.

TABLE 2-1
Summary of Eastern PWSMA Public Water System Service Areas by Municipality

Municipality	Total Number of Community and Non-Community Systems	Total Number of Community Water Systems	Number of NTNC Systems	Number of TNC Systems
Ashford	26	8	2	16
Bozrah	11	1	1	9
Brooklyn	18	3	4	11
Canterbury	18	3	5	10
Chaplin	14	1	3	10
Colchester	21	8	2	11
Eastford	13	1	2	10
East Lyme	6	1	1	4
Franklin	20	1	4	15
Griswold	19	6	2	11
Groton	17	6	5	6
Hampton	4	0	2	2
Killingly	23	6	5	12
Lebanon	37	6	9	22
Ledyard	14	8	1	5
Lisbon	10	6	3	1
Montville	60	27	10	23
New London	1	1	0	0
North Stonington	39	5	7	27
Norwich	15	6	1	8
Plainfield	24	9	2	13
Pomfret	26	5	6	15
Preston	22	4	1	17
Putnam	9	2	3	4

TABLE 2-1
Summary of Eastern PWSMA Public Water System Service Areas by Municipality

Municipality	Total Number of Community and Non-Community Systems	Total Number of Community Water Systems	Number of NTNC Systems	Number of TNC Systems
Salem	14	3	4	7
Scotland	6	0	1	5
Sprague	6	1	2	3
Sterling	9	2	1	6
Stonington	22	6	4	12
Thompson	28	7	5	16
Union	3	0	1	2
Voluntown	16	2	1	13
Waterford	4	2	0	2
Windham	13	3	3	7
Woodstock	36	9	9	18

Ashford – Eight CWSs are currently in operation in Ashford. All eight water systems serve fewer than 500 people. These systems include the Perry Hill Estates Apartments, Evangelical Christian Center, Birch Hills Condominiums, CWC Pompey Hollow Division, CWC Ashford Park Division, Ashford Hills Apartments, Mar-Lea Park Apartments, and Woodlawn Apartments systems. NTNC systems include one school and one campground, and TNC systems include several campgrounds and small businesses.

Bozrah – A small area adjacent to Route 2 in Bozrah is supplied by Norwich Public Utilities (NPU). The NTNC system is agricultural, and the TNC systems include churches, campgrounds, small businesses, and a commercial plaza.

Brooklyn – Three CWSs supply Brooklyn. The CWC Crystal Water Company supplies the central and eastern sections of town along and adjacent to Route 6. Additionally, two small CWSs, the Brooklyn Manor and Gorman Road Apartments systems, serve fewer than 500 people. NTNC systems include small businesses and educational facilities, and the TNC systems include restaurants, churches, and small businesses.

Canterbury – Three CWSs are currently in operation in Canterbury. These systems include the Longview Estates, Knollbrook Village Elderly Housing, and Campbell Heights Apartments System #2. NTNC systems include several schools and small businesses, and the TNC systems include municipal facilities, small businesses, and churches.

Chaplin – There is one CWS in Chaplin; the Chaplin Woods Condominium system supplies a condominium complex in the south end of town. NTNC systems include educational facilities, and the TNC systems include small businesses, municipal facilities, and a church.

Colchester – Eight CWSs are currently in operation in Colchester. The Colchester Sewer & Water Commission is the largest CWS. The remaining seven CWSs each serve fewer than 500 people. These systems include the CWC West Chester Village, Westchester Hills Condominiums, Knob Hill Condominiums, Knob Hill Condominiums – Well #5, CWC Ponemah Village, Gaia Gardens, and Colchester Commons systems. The NTNC system includes a large commercial plaza, and the TNC systems include state parks, small businesses, churches, and a state facility.

East Lyme – The East Lyme Water & Sewer Commission is the only CWS in the town of East Lyme. The sole NTNC system is a small business, and the TNC systems are campgrounds.

Eastford – The sole CWS in Eastford is part of the Evangelical Christian Center. NTNC systems include a small business and a school, and the TNC systems include campgrounds, churches, a state park, and a municipal facility.

Franklin – NPU is the only CWS providing service in Franklin and provides service to an industrial park in the town's southern end. NTNC systems include a school and small businesses, and the TNC systems include small businesses, municipal services, and a state wildlife management area.

Griswold – Griswold has six CWSs. The Jewett City Water Company is the largest system in the community. The remaining five water systems serve fewer than 500 people in mobile home parks and residential areas. These small systems include the Connolly's Trailer Park, Jewett City Water Company S & W System, CWC Country Mobile Division, Lakeview Mobile Home Park, and CWC Bay Mountain systems. NTNC systems include a campground and a golf course, and TNC systems include a state park, small businesses, and a campground.

Groton – Six CWSs are currently in operation in the town of Groton. Significant systems include Groton Utilities, Noank Fire District, Aquarion Water Company – Mystic Division, and the Groton Long Point Association systems. Smaller systems include Rogers Mobile Home Park and Colonial Efficiency Apartments systems. NTNC systems include educational facilities and small businesses, and the TNC systems include small businesses and churches.

Hampton – There are no CWSs in Hampton. NTNC systems include a school and a small business, and the TNC systems include a small business and a church.

Killingly – Six CWSs operate in Killingly. The CWC – Crystal Water Company System is the primary supplier. Small CWSs include the Westview Nursing Care and Rehab Center, Country Acres Park, Conrads Park, Cranberry Bog Apartments, and Fall Brook Mobile Home Park systems. These small systems each supply fewer than 500 individuals. NTNC systems include a school, large and small businesses, and a municipal facility, and the TNC systems include a church, campgrounds, and small businesses.

Lebanon – Lebanon is served by six CWSs. Small systems include the Village Hill Apartments, CWC Lebanon Elderly Division, Carefree Homeowners Association, Aquarion Water Company – Lebanon Division, and the CWC Amston Lake Division systems. Additionally, NPU serves a few customers in the southern edge of town. NTNC systems include schools, small businesses, and a church, and the TNC systems include campgrounds, municipal facilities, churches, and small businesses.

Ledyard – Eight CWSs serve Ledyard. Of these, four are large systems. The MPTN serves residents and visitors on and adjacent to tribal land. The Ledyard WPCA serves a significant area through its Gales Ferry and Ledyard Center systems. The SCWA Tower Ferry View Division is also a large system. Additional CWSs include SCWA Ledyard Center Division, SCWA Gray Farms Division, SCWA Barrett Division, SCWA Chriswood Division, and the Ash Water Company. NTNC systems include one educational facility, and the TNC systems include small businesses and churches.

Lisbon – Lisbon is served by six CWSs. The Jewett City Water Company and NPU serve small portions of Lisbon. Additionally, Lisbon has four small CWSs that serve fewer than 250 people. These include The Jewett City Water Company – Hill-N-Dale, Round Hill LLC Well #1, Lisbon Mobile Homes, and Tunnel Hill Mobile Homes systems. NTNC systems include a school, a campground, and a small business, and the TNC system is a municipal facility.

Montville – At 27 CWSs, Montville is the municipality served by the largest number of CWSs in the region. The large systems include Montville Water Supply (WPCA) system, the SCWA Mohegan Division, SCWA Montville Division, and NPU. NPU has a small service area on the northern end of Montville. The remaining systems serve fewer than 1,000 people. These include Deer Run Supply, Fox Laurel Mobil Home Park, Freedom Village Elderly Housing, Independence Village Elderly Housing, Jensen's Marina Cove Residential, Kitemaug Orchard Association, Mount View Apartments, Lakeside Manor Apartments, Meadows Apartments, Oakdale Heights Association, Oakridge Gardens, Oakridge Village, SCWA Birchwood Division, SCWA Chesterfield Division, SCWA Hillcrest Division, SCWA Robin Hill Division, SCWA Seven Oaks, St. Thomas More School Main System, St. Thomas More School-The Cove, Stony Brook Mobile Home Park, Thompson Hill Water Company Beachwood Acres, and 261 & 263-271 Route 163. The Mohegan Tribal Utility Authority (MTUA) also serves its tribal land in the northeastern section of Montville. NTNC systems include public and private schools, campgrounds, small businesses, and a state facility, and the TNC systems include school facilities, campgrounds, small businesses, and churches.

New London – The New London Department of Public Utilities municipal system is the only public water system in New London.

North Stonington – Five CWSs provide water to residents of North Stonington. The SCWA North Stonington Division is the only large system. Small populations are served by the SCWA Cedar Ridge Division, Northstone Gardens, MPTN, and the Westerly Water Department. NTNC systems include small businesses and an educational facility, and the TNC systems include churches, a medical facility, small businesses, and campgrounds.

Norwich – There are six CWSs in Norwich, with NPU providing service to most of the community. Additional small systems include the Pleasure Valley M.H.P. systems 1, 2, and 3; Sunny Waters Mobile Home Park; and Countryside Drive Association. The sole NTNC system is an educational facility, and the TNC systems include small businesses, a church, and municipal facilities.

Plainfield – Nine CWSs provide water to the residents of Plainfield. The CWC Gallup Water Service and the CWC Crystal Water Company Plainfield Division are the only large systems. Additionally, seven smaller systems serve residents of Plainfield, including the Moosup Pond Terrace, Arnio Drive LLC, Moosup Manor, Pickett Road Apartments, Jumbo Apartments, Moosup Garden Apartments, and Westview Terrace Mobile Home Park. NTNC systems include small businesses, and the TNC systems include small businesses and two state facilities.

Pomfret – There are five CWSs in Pomfret, and all supply fewer than 500 people. These systems include the Pomfret School, The Rectory School, Country Manor, Woodland Apartments, and Seely-Brown Village systems. NTNC systems include educational facilities and small businesses, and the TNC systems include state parks, small businesses, campgrounds, a church, and a municipal facility.

Preston – Preston is supplied by four CWSs. The systems include Strawberry Park, Lincoln Park Elderly Housing, and the Preston Plains Water Company, and a small section of Preston is served by NPU. The sole NTNC system is a school, and the TNC systems include campgrounds, churches, small businesses, and municipal facilities.

Putnam – Putnam has two CWSs, which serve the majority of the town's population. The Putnam WPCA serves much of the western portion of the community and parts of Woodstock, and the Matulaitis Nursing Home system serves a convalescent center. NTNC systems include small businesses and an educational facility, and the TNC systems include small businesses.

Salem – Salem is served by three small CWSs, including Salem Manor Condominiums System #1 and System #2 and Crystal Lake Condominiums. NTNC systems include a school and small businesses, and the TNC systems include campgrounds, municipal facilities, and small businesses.

Scotland – Scotland does not have any CWSs. The sole NTNC system is a school, and TNC systems include a church, a campground, a small business, and a municipal facility.

Sprague – Sprague is served by one CWS, the Sprague Water & Sewer Authority. NTNC systems include a small business and a golf course, and the TNC systems include a campground and small businesses.

Sterling – Two CWSs serve Sterling, namely the Sterling Water System and the Gibson Hill Park system. There are no NTNC systems in town, and the TNC systems include campgrounds, small businesses, and a municipal facility.

Stonington – Six CWSs provide water in Stonington. Significant water systems include the Aquarion Water Company – Mystic system and the Westerly Water Department. Additional CWSs serving Stonington include the SCWA Lantern Hill Division, Arlington Acres Manufactured House Community, CWC Mason's Island, and the Classee Water System – Latimer Point. NTNC systems include educational facilities, a small business, and a church, and the TNC systems include small businesses, golf courses, a medical facility, a church, and a municipal facility.

Thompson – There are seven CWSs in Thompson. The CWC Thompson Division is the largest CWS with service in other areas provided by the Putnam WPCA, Quinebaug Mobile Home Park, Marianopolis Prep School-St. Albert's, Marianopolis Prep School-St. Johns, Thompson Hill Water Company Paula Lane Division, and the Justice Resource Institute systems. NTNC systems include an educational facility and small businesses, and the TNC systems include churches, small businesses, a state park, a golf course, and a campground.

Union – Union does not have any CWSs. The sole NTNC system is a school, and the TNC systems include a small business and a state facility.

Voluntown – Voluntown is served by two CWSs, which include the CWC SDC System and the Voluntown Housing Authority. The sole NTNC system is a school, and the TNC systems include a state park, small businesses, municipal facilities, a church, and campgrounds.

Waterford – Two CWSs provide water for the town of Waterford. The majority of Waterford residents and businesses are supplied by the Waterford WPCA while a smaller system supplies Waterford Country School. There are no NTNC systems in Waterford, and TNC systems include a small business and a private school ballfield.

Windham – There are three CWSs in Windham. Windham Water Works is the primary system serving the community with the two smaller systems being Douglas Manor and Wyndham Park Apartments. NTNC systems include schools and a small business, and the TNC systems include small businesses, churches, and municipal facilities.

Woodstock – Woodstock has nine CWSs, including the Putnam WPCA, Solair Recreational League Lower Ridge, Fawn Ridge Association, Woodstock Meadows Condominium Association, Roseland Terrace Association, CWC Cornfield Point Division, Brookwood Apartments, Hyde School System #2, Woodstock Housing Authority, and Pinecrest Condominiums. NTNC systems include educational facilities, small businesses, and a campground, and the TNC systems include campgrounds, small businesses, a municipal facility, golf courses, and churches.

2.2 Assessment of Water Quality and Source Protection Concerns

DPH files and databases of recent water quality enforcement actions in the region have been compiled and evaluated. These are summarized in Table 2-2 for CWSs from recent Annual Compliance Reports published by DPH.

TABLE 2-2
Summary of Recent Water Quality Violations for Community Systems (2014-2015)

Public Water System	Primary Location Served	MCL Violations	Monitoring Violations	Reporting Violations	Comment
Ashford Hills Apartments	Ashford	0	9	4	Physical Parameters, Chlorine
Evangelical Christian Center – Main	Ashford	0	12	5	TTHM, HAA5, Chlorine
Mar-Lea Park Apartments	Ashford	0	5	0	Total Coliform, Physical Parameters
Brooklyn Manor	Brooklyn	3	0	0	Total Coliform
Campbell Heights Apartments – System #2	Canterbury	0	1	0	pH
Colchester Sewer & Water Commission	Colchester	0	2	0	Volatile Organic Compounds (VOCs), Total Coliform
CWC – Westchester Village	Colchester	1	0	1	90th Percentile Lead
Jewett City Water Co., S & W System	Griswold	0	2	0	Disinfection Byproducts

TABLE 2-2
Summary of Recent Water Quality Violations for Community Systems (2014-2015)

Public Water System	Primary Location Served	MCL Violations	Monitoring Violations	Reporting Violations	Comment
Lakeview Mobile Home Park	Griswold	0	0	2	
Noank Fire District	Groton	0	0	1	
Rogers Mobile Home Park – Groton	Groton	0	1	0	Nitrate
Whipples Mobile Home Park	Groton	1	0	3	Total Coliform
Conrads Park	Killingly	1	0	0	Total Coliform
Cranberry Bog Apartments	Killingly	0	1	0	Lead and Copper
Westview Nursing Care & Rehab Center, Inc.	Killingly	1	0	0	Total Coliform
CWC – Crystal Water Company	Killingly/ Brooklyn	0	5	0	Radionuclides
Carefree Homeowners Association	Lebanon	0	5	1	Physical Parameters, Total Coliform
CWC – Lebanon Elderly	Lebanon	1	0	1	Total Coliform
Village Hill Apartments	Lebanon	0	0	1	
Round Hill LLC – Well #1	Lisbon	0	0	2	
261 & 263-271 Route 163	Montville	0	65	1	Physical Parameters, Total Coliform, pH, SOCs, VOCs, Radionuclides, Lead and Copper
Jensens, Inc. Marina Cove Residential	Montville	0	1	1	pH
Kitemaug Orchard Association, Inc.	Montville	0	1	0	Lead and Copper
Lakeside Manor Apartments	Montville	0	1	1	Lead and Copper
Montville Water Supply	Montville	2	0	1	TTHMs
Mountview Apartments	Montville	0	0	1	
Oakdale Heights Association, LLC	Montville	0	0	1	
Oakridge Gardens, LLC	Montville	0	0	1	
Oakridge Village	Montville	0	0	1	
St. Thomas More School – Main System	Montville	0	0	1	
St. Thomas More School – The Cove	Montville	0	0	2	
Stony Brook Mobile Home Park	Montville	4	0	5	Net Gross Alpha, Uranium
Thompson Hill Water Co. – Beechwood Acres	Montville	0	0	1	
New London Department Of Public Utilities	New London	0	5	0	Physical Parameters

TABLE 2-2
Summary of Recent Water Quality Violations for Community Systems (2014-2015)

Public Water System	Primary Location Served	MCL Violations	Monitoring Violations	Reporting Violations	Comment
Northstone Gardens	North Stonington	2	1	0	Total Coliform (MCL), Lead and Copper
Norwich Public Utilities	Norwich/ Bozrah/ Lisbon/ Preston/ Franklin	3	0	1	TTHMs
Arnio Drive, LLC	Plainfield	0	0	1	
Jumbo Apartments	Plainfield	1	0	0	Total Coliform
Moosup Manor	Plainfield	0	0	1	
Pickett Road Apartments	Plainfield	0	1	0	Total Coliform
Country Manor	Pomfret	4	0	3	Arsenic
Seely – Brown Village	Pomfret	0	0	1	
The Rectory School	Pomfret	0	0	3	
Woodland Apartments	Pomfret	0	0	2	
Lincoln Park Elderly Housing	Preston	0	5	0	Total Coliform, Physical Parameters
Strawberry Park	Preston	0	0	4	
Putnam Water Pollution Control Authority	Putnam/ Woodstock	1	0	0	Total Coliform
Salem Manor Condos, System #1	Salem	2	0	0	Total Coliform
Sprague Water & Sewer Authority	Sprague	0	0	1	
Classee Water System – Latimer Point	Stonington	0	0	1	
CWC – Shoreline Region-Masons Island	Stonington	0	3	1	Total Coliform, Chlorine
Fair Acres Mobile Home Park	Stonington	0	0	1	
CWC – Crystal Water Co, Thompson Div.	Thompson	0	1	0	SOCs
Justice Resource Institute, Inc.	Thompson	0	0	1	
Marianapolis Prep School – St. Alberts	Thompson	0	0	3	
Marianapolis Prep School – St. Johns	Thompson	0	0	1	
Quinebaug Mobile Home Park	Thompson	0	0	1	
Voluntown Housing Authority	Voluntown	0	0	3	
Brookwood Apartments	Woodstock	0	1	2	Total Coliform
Fawn Ridge Association	Woodstock	0	0	1	
Hyde School – System #2	Woodstock	0	0	1	

TABLE 2-2
Summary of Recent Water Quality Violations for Community Systems (2014-2015)

Public Water System	Primary Location Served	MCL Violations	Monitoring Violations	Reporting Violations	Comment
Woodstock Housing Authority	Woodstock	0	5	1	Physical Parameters, Total Coliform
Total		**28**	**133**	**73**	

*HAA5 = Total Haleoacetic Acids; MCL = Maximum Contaminant Level; SOC = Synthetic Organic Chemical; TTHM = Total Trihalomethanes; VOC = Volatile Organic Compound

Most violations are due to lack of testing and/or reporting of water quality data, and the majority of violation actions have occurred in small systems. A total of 28 MCL violations, 133 monitoring violations (failure to perform a sampling event), and 73 reporting violations (failure to perform public notification or issue consumer confidence reports) occurred in the region for CWSs in 2014 and 2015. Note that 65 of the monitoring violations were for one system. In addition, four systems (Mar-Lea Park Apartments, Mountview Apartments, Oakdale Heights Association, Inc., and Voluntown Housing Authority) had an action level exceedance for lead and copper.

Table 2-3 summarizes overall water quality and source protection concerns of the larger water systems in the region based on a review of WSPs. These water quality concerns include either constituents that require treatment or activities within the source water area that could affect water quality. As illustrated by Table 2-3, elevated iron and manganese levels are common throughout the Eastern PWSMA. The elevated levels of these two metals may be due, in part, to the acidity in the soils and/or the bedrock types in the Eastern PWSMA combined with large mineral and metal deposits. Additionally, the bedrock geology for the Eastern PWSMA is a source of iron and manganese. Bedrock in the area is typically composed of metamorphic and igneous crystalline rocks such as gneiss, schists, and granites. Water is contained within and transmitted via open fractures in the bedrock mass.

TABLE 2-3
Summary of Water Utility Concerns Regarding Water Quality and Source Protection for Utilities Serving >1,000 People

Community Water System	Primary Location Served	Summary of Water Quality Concerns	Summary of Source Protection Concerns
Aquarion Water Co. – Mystic System	Stonington/ Groton	Iron and physical parameters in reservoir supplies, iron in groundwater, disinfection byproducts in distribution system	Transportation-related spills
Colchester Water & Sewer Commission	Colchester	Historic VOC contamination, radon, iron, and manganese in groundwater	No reported concerns
CWC – Crystal Plainfield	Plainfield	No reported concerns	No reported concerns
CWC – Crystal Thompson	Thompson	No reported concerns	No reported concerns

TABLE 2-3
Summary of Water Utility Concerns Regarding Water Quality and Source Protection for Utilities Serving >1,000 People

Community Water System	Primary Location Served	Summary of Water Quality Concerns	Summary of Source Protection Concerns
CWC – Crystal Water Company	Killingly/ Brooklyn	Iron and manganese in groundwater	No reported concerns
CWC – Gallup Water	Plainfield	Historic MTBE detection	No reported concerns
East Lyme Water & Sewer	East Lyme	Iron and manganese in groundwater	Road salt, septic systems, improper chemical usage/waste disposal, underground storage tanks
Groton Long Point Association	Groton	No reported concerns	No reported concerns
Groton Utilities	Groton	Iron and manganese in reservoir supplies	Septic systems, fuel tanks, sedimentation and erosion, roadway deicing chemicals
Jewett City Water Company	Griswold/ Lisbon	Radon in groundwater	Underground fuel tanks, improper chemical usage
Ledyard WPCA – Gales Ferry System	Ledyard	No reported concerns	No reported concerns
Ledyard WPCA – Ledyard Center System	Ledyard	No reported concerns	No reported concerns
Mashantucket Pequot Tribal Nation	Mashantucket	Iron and manganese in groundwater	Roadway deicing chemicals, stormwater runoff, improper wastewater disposal, agricultural runoff
Mohegan Tribal Utility Authority	Mohegan	Disinfection byproducts in distribution system	No reported concerns
Montville Water Supply (WPCA)	Montville	Disinfection byproducts in distribution system	No reported concerns
New London Department of Utilities	New London	Discolored water in reduced flow mains	Domestic and industrial septic systems, agricultural runoff, unauthorized swimming, sedimentation and erosion, improper chemical usage/waste disposal
Noank Fire District	Groton	No reported concerns	No reported concerns
Norwich Public Utilities	Norwich/ Bozrah/ Preston/ Franklin/Lisbon	No reported concerns	Stormwater runoff, roadway deicing chemicals, improper chemical use/disposal, septic systems, underground fuel tanks
Putnam WPCA	Putnam/ Woodstock	No reported concerns	Chemical spills, agricultural runoff, septic systems, unauthorized swimming
SCWA – Mohegan Division	Montville	No reported concerns	No reported concerns
SCWA – Montville Division	Montville	No reported concerns	No reported concerns

TABLE 2-3
Summary of Water Utility Concerns Regarding Water Quality and Source Protection for Utilities Serving >1,000 People

Community Water System	Primary Location Served	Summary of Water Quality Concerns	Summary of Source Protection Concerns
SCWA – North Stonington Division	North Stonington	No reported concerns	No reported concerns
SCWA – Tower-Ferry Division	Ledyard	No reported concerns	No reported concerns
Sprague Water & Sewer Commission	Sprague	Uranium in groundwater, sodium in distribution system	Underground storage tanks, roadway runoff, roadway deicing chemicals
Waterford Utility Commission	Waterford	No reported concerns	No reported concerns
Westerly Water Department	Stonington	Disinfection impacts in distribution system	Nonpoint pollution sources
Windham Water Works	Windham/ Mansfield	Elevated impoundment temperatures during summer	Septic systems, sedimentation and erosion, migratory waterfowl, pesticides

MTBE = Methyl-Tert Butyl Ether

Iron and manganese sequestering has been implemented by many CWSs to reduce metals and turbidity levels. Adjustment for pH has also been added to many treatment operations for the larger CWSs to correct for the low pH levels often reported, and many systems also add a corrosion inhibitor. Many smaller systems are finding it necessary to provide the same measure of treatment. Bacteria contamination has been detected in several CWSs in the region with exceedances ranging from chronic problems to sporadic outbreaks. However, it should be noted that many CWSs both large and small have remained without water quality degradation and/or problems for many years.

Appended Figure 3 presents the arsenic concentrations that were above the detection limit in public water supply wells throughout Connecticut for 2013-2015. The greatest arsenic concentrations appear to be located in southeastern Woodstock and central Hampton where concentrations were detected at greater than the MCL of 0.01 milligrams per liter (mg/l) during this period. Other areas where notable concentrations were detected in the region below the MCL include northern Brooklyn, central Lebanon, northeastern Pomfret, central Preston, eastern Thompson, and central Windham.

Appended Figure 4 presents the combined uranium concentrations that were above the detection limit in public water supply wells throughout Connecticut for 2013-2015. The greatest combined uranium concentrations appear to be located in northeastern Montville and southern Sprague, where concentrations were above the MCL of 30 micrograms per liter (µg/l). Other areas where notable concentrations were detected in the region below the MCL include southeastern Montville. In addition, Connecticut DEEP has reported that Lebanon and Bozrah have some areas where arsenic and uranium levels are problematic in private wells.

The Connecticut DEEP[1] produced a map entitled "Indoor Radon Potential Map of Connecticut" in 1997 for the Connecticut DPH using data collected from 1985 to 1995. According to the map, the highest concentrations of radon in well water in the region can be found in southeastern Ashford, northwestern Chaplin, Eastford, southeastern Griswold, northeastern North Stonington, northwestern Pomfret, eastern Stonington, southern Voluntown, and southern Woodstock.

Source protection concerns listed in WSPs vary by utility. Utilities with sources near developed areas are typically concerned with nearby septic system failures, underground storage tanks, and roadway runoff, which can contribute pollution from transportation accidents and road deicing chemicals and salts. Misuse and inappropriate storage of chemicals by residents and businesses are also of concern. Systems utilizing reservoirs typically view source protection concerns on a much larger scale across the contributing watershed, with additional concerns being the level and density of development, agricultural runoff, unauthorized swimming, sedimentation and erosion, and even impacts from migratory waterfowl. Specific planning related to source protection for each larger utility is discussed in Section 6.3.1.

2.3 Assessment of System Reliability

Table 2-4 presents information on the availability of backup or emergency supply sources, interconnections, and the existence of emergency power for the CWSs in the Eastern PWSMA serving greater than 1,000 people. This information is based on a review of individual WSPs, information provided by system representatives, and information provided by DPH. Most of the larger systems have either emergency supplies or multiple sources of supply. Approximately one-half of these larger systems are interconnected with another system, and all have at least some emergency power capabilities.

TABLE 2-4
Summary of System Reliability Characteristics for Community Water Systems Serving >1,000 People

Community Water System	Primary Location Served	Backup/ Emergency Supply	Inter-connections	Emergency Power Availability
Aquarion Water Co. – Mystic System	Stonington/ Groton	M, E	Y	Y
Colchester Water & Sewer Commission	Colchester	M, E	N	Y
CWC – Crystal Plainfield	Plainfield	M, E	N	Y
CWC – Crystal Thompson	Thompson	M, E	N	Y
CWC – Crystal Water Company	Killingly/ Brooklyn	M, E	Y	Y
CWC – Gallup Water Service, Inc.	Plainfield	M, E	N	Y
East Lyme Water & Sewer	East Lyme	M, E	Y	Y
Groton Long Point Association	Groton	N	Y	Y*
Groton Utilities	Groton	M, E	Y	Y
Jewett City Water Company	Griswold/Lisbon	M	N	Y
Ledyard WPCA – Gales Ferry System	Ledyard	N	Y	Y*
Ledyard WPCA – Ledyard Center System	Ledyard	N	Y	Y*
Mashantucket Pequot Tribal Nation	Mashantucket	M, E	Y	Y
Mohegan Tribal Utility Authority	Mohegan	M	Y	Y

[1] http://www.ct.gov/deep/cwp/view.asp?a=2701&depNav_GID=1641&q=323456

TABLE 2-4
Summary of System Reliability Characteristics for Community Water Systems Serving >1,000 People

Community Water System	Primary Location Served	Backup/ Emergency Supply	Inter-connections	Emergency Power Availability
Montville Water Supply	Montville	N	Y	Y
New London Department of Utilities	New London	M, E	Y	Y
Noank Fire District	Groton	N	Y	Y*
Norwich Public Utilities	Norwich/Bozrah/ Franklin/Preston/ Lisbon	M, E	Y	Y
Putnam WPCA	Putnam/ Woodstock	M	Y	Y
SCWA – Mohegan Division	Montville	M	N	Y
SCWA – Montville Division	Montville	M	N	Y
SCWA – North Stonington Division	North Stonington	M	N	Y
SCWA – Tower-Ferry Division	Ledyard	M	N	Y
Sprague Water & Sewer Commission	Sprague	M, E	N	Y
Waterford Utilities Commission	Waterford	N	Y	Y
Westerly Water Department	Stonington	M, E	N	Y
Windham Water Works	Windham/ Mansfield	N	N	Y

M: Multiple sources of supply; E: Emergency or Backup source of supply; N: None; Y: Yes.
* Emergency power capabilities provided by source CWS.

Some of the larger systems are consecutive water systems that have no sources of supply (Groton Long Point Association, Ledyard WPCA, MTUA, Montville WPCA, and Waterford Utilities Commission) and rely on interconnections for daily supply. However, many of the larger systems and some of the smaller ones are within close proximity to one another with no interconnection. Windham Water Works is the only major supplier without a backup/emergency supply source or an interconnection.

Note that Table 2-4 is not meant to imply that systems with multiple sources, emergency sources, and interconnections are inherently more reliable than those that do not have them. In many cases, the additional supply sources in a system are not sufficient to provide 100% of demands if the largest goes offline; in some cases, emergency supplies may not be able to be activated immediately pending results of water quality tests. However, systems with only one source of supply are considered by DPH to be more at risk of an emergency declaration should a problem occur. An advanced analysis of the reliability of each system is beyond the scope of this document.

Appendix C presents basic information on system reliability for the CWSs serving fewer than 1,000 people. Based on the available information, 34% of the small systems rely on a single source of supply, and 66% of systems have more than one source of supply. Reliance on a sole source of supply in a small system is problematic as the only alternative is typically a water tanker if the source becomes unavailable. Two systems receive 100% of their supply through interconnections without a backup source of supply. These are the CWC – Masons Island and the Classee Water System – Latimer Point systems.

Numerous smaller CWSs lack generators and were unable to provide water (or were on a boil water notice) for up to a week at a time following Tropical Storm Irene in 2011 and Super Storm Sandy in 2012. Many systems have been seeking grant funding for the purchase of generators, but overall results of such efforts have varied. Several utilities reported purchasing additional generators since the two storms occurred.

2.4 Assessment of Service and Supply Adequacy

Under DPH Guidelines for individual WSP development, it is the responsibility of the water company to demonstrate that it has an adequate margin of safety of available water in excess of demand. Per RCSA Section 25-32d-1a(a)(22), margin of safety is the unitless ratio of available water to demand. It is system specific and is based only on available active supplies, considering hydraulic, permitting, or other supply limitations. Available water for a system is often lower than the combined safe yield of a combination of supplies although it may be greater than the safe yield when considering system peaking capacity such as for surface water supplies.

A margin of safety of at least 15% (1.15) relative to a 99% (critical dry period) safe yield is recommended by PURA [RCSA 16-262m-8(d)(1)], but the 15% recommendation is typically used for planning purposes on the basis of available water as required by DPH. Margin of safety is required to be evaluated for average-day, maximum month average-day, and peak-day demand conditions using the same value for available water, but margin of safety is typically evaluated for maximum month average-day and maximum day conditions using higher values of available water[2] based on historical DPH guidance. Certain systems may have an adequate average-day margin of safety but experience peak demand deficiencies. Other systems can meet peak requirements but have marginal or inadequate supplies to sustain long-term average-day demands.

Table 2-5 presents actual (not projected) demand, yield, and margin of safety for the average day, maximum month, and peak day for CWSs serving greater than 1,000 people, based on information contained in the individual WSPs and input from system representatives. The available data indicates all of the larger systems are meeting average-day demands with a 15% or more margin of safety.

Maximum month average-day demand margin of safety is below 1.15 for three systems. These are the East Lyme Water & Sewer, Ledyard WPCA – Gales Ferry, and New London Department of Utilities systems. All other systems serving greater than 1,000 people operate with a maximum month average-day margin of safety greater than 15%. Peak-day demand margin of safety is below 1.15 for only the Ledyard WPCA – Gales Ferry and Ledyard WPCA – Ledyard Center systems due to permit limitations although one (Noank Fire District) did not have peak-day demand information available.

Demand, yield, and margin of safety data as well as ability to meet peak hourly demands for systems serving fewer than 1,000 people are presented in Appendix D. Nearly all of the smaller systems with margin of safety information have margins of safety in excess of 15%. In some cases, the margin of safety may be below 1.15 because the water demand is estimated at 75 gallons per person per day (gpcd) and would be above 1.15 if actual usage data were available. Almost all systems are believed capable of supplying peak hourly demands without storage.

[2] Typically, increased treatment capacities sustainable over at least 30 days are utilized to calculate the available water to meet maximum month average-day demands, and 24-hour capacities are utilized to calculate the available water to meet peak-day demands.

TABLE 2-5

System Demand, Available Yield, Margin of Safety, and Unaccounted-for Water for Water Systems Serving > 1,000 People

Water System	Reference Year[1] and (Data Source)	Average Day Demand (mgd)	Average Day Available Water[2] (mgd)	Average Day Margin of Safety	Maximum Month Average Day Demand (mgd)	Maximum Month Average Day Available Water[2] (mgd)	Maximum Month Average Day Margin of Safety	Peak Day Demand (mgd)	Peak Day Available Water[2] (mgd)	Peak Day Margin of Safety	Unaccounted-For Water Percentage	Per-Capita Residential Demand (gpcd)
Aquarion Water Company – Mystic System	2015 (PC), 2015 (PAR), 2005 WSP	1.339	2.100	1.57	1.788	2.530	1.41	2.141	3.100	1.45	18%	55
Colchester Water & Sewer Commission	2010 (WSP)	0.337	0.746	2.21	0.374	0.746	1.99	0.493	0.995	2.02	1%	45
CWC – Crystal Plainfield	2015 (PC), 2007 (WSP)	0.164	0.740	4.51	0.182	0.740	4.07	0.278	0.987	3.55	23%	61
CWC – Crystal Thompson[3]	2015 (PC), 2007 (WSP)	0.127	0.216	1.70	0.143	0.216	1.51	0.227	0.288	1.27	11%	68
CWC – Crystal Water Company[3]	2015 (PC), 2007 (WSP)	1.251	2.513	2.01	1.537	2.513	1.64	2.217	3.350	1.51	12%	73
CWC – Gallup Water	2015 (PC), 2007 (WSP)	0.421	0.862	2.05	0.461	0.862	1.87	0.591	0.862	1.46	32%	51
East Lyme Water & Sewer[8]	2012 (DIV); 2004 (WSP)	1.810	2.501	1.38	2.290	2.501	1.09	2.890	3.333	1.15	15%	65
Groton Long Point Association	2015 (PC)	0.120	0.345	2.88	0.220	0.345	1.57	NR	1.080	NR	NR	NR
Groton Utilities[4]	2015 (PC)	5.700	12.600	2.21	6.810	15.000	2.20	8.130	20.000	2.46	<1%	59
Jewett City Water Company	2015 (PAR)	0.549	0.913	1.66	0.746	0.913	1.22	1.320	1.755	1.33	22%	79
Ledyard WPCA – Gales Ferry System	2015 (PC)	0.140	0.250	1.79	0.240	0.250	1.04	0.490	0.500	1.02	NR	NR
Ledyard WPCA – Ledyard Center System	2015 (PC)	0.144	0.350	2.43	0.195	0.350	1.79	0.597	0.350	0.59	NR	NR
Mashantucket Pequot Tribal Nation	2010 (WSP)	1.184	2.450	2.07	1.620	2.450	1.51	2.400	3.260	1.36	7%	45
Mohegan Tribal Utility Authority	2015 (PC)	0.643	1.450	2.26	0.831	1.450	1.74	1.001	1.450	1.45	NR	NR
Montville Water Supply (WPCA)	2015 (PC)	0.472	0.835	1.77	0.699	0.835	1.19	0.734	2.380	3.24	13%	113
New London Department of Utilities[5]	2012 (DIV), 2004 (WSP)	5.250	6.620	1.26	6.250	6.620	1.06	7.520	12.000	1.60	18%[7]	33
Noank Fire District	2015 (PC), 2008 (WSP)	0.200	0.250	1.25	0.380	0.450	1.18	NR	0.450	NR	NR	120
Norwich Public Utilities[6]	2012 (DIV); 2012 PAR	4.540	6.330	1.39	5.570	7.072	1.27	7.080	14.586	2.06	8%	51
Putnam WPCA	2011 (WSP)	0.960	2.751	2.87	1.140	2.751	2.41	1.390	2.751	1.98	8%	68
SCWA – Mohegan Division	2015 (PC); 2011-12 (PAR)	0.070	0.228	3.24	0.083	0.228	2.74	0.119	0.228	1.92	14%	49
SCWA – Montville Division	2015 (PC); 2011-12 (PAR)	0.088	0.220	2.49	0.109	0.220	2.02	0.118	0.220	1.86	6%	41
SCWA – North Stonington Div.	2015 (PC); 2011-12 (PAR)	0.049	0.180	3.68	0.056	0.180	3.19	0.083	0.180	2.17	4%	26
SCWA – Tower-Ferry Division	2015 (PC); 2011-12 (PAR)	0.265	0.881	3.32	0.348	0.881	2.53	0.366	0.881	2.41	29%	73
Sprague Water & Sewer Commission	2014-15 (PAR), 2011 (WSP)	0.061	0.186	3.03	0.072	0.186	2.60	0.109	0.225	2.07	10%	33
Waterford Utilities Commission	2015 (WSP)	1.900	As Needed	NR	2.430	As Needed	NR	3.820	As Needed	NR	18%[7]	60
Westerly Water Department	2012 (WSP)	3.300	6.300	1.91	NR	6.300	NR	6.240	8.400	1.35	10%	NR
Windham Water Works	2015 (PC), 2012 (WSP)	2.300	4.100	1.78	2.630	4.100	1.56	2.980	4.100	1.38	15%	60

1. Data is a compilation from various sources including regulatory agencies, public water supply representatives, municipalities, and regional planning organizations. Individual water supply plans as well as DPH files and databases were accessed. Additionally, this information was supplemented by telephone interviews and personal communications with individuals having an association with the water system. Key to abbreviations: WSP = Water Supply Plan; DIV = Diversion Permit Application; PAR = PURA Annual Report; and PC = Personal Communication
2. Represents available water, or the limiting factor between safe yield, permit or registration limits, contractual limits, pump capacity, etc.
3. Available water from 2008 WSP and does not include recent improvements that have increased available water in these systems.
4. Includes Groton Long Point, Noank Fire District, Ledyard WPCA, and Montville WPCA demands and part of Aquarion - Mystic and Mohegan Tribe demands.
5. Includes Waterford Utilities Commission demands
6. Includes part of Mohegan Tribe demands
7. Value reported for combined New London - Waterford System
8. East Lyme is preparing a Water Supply Plan Update, which will be submitted to DPH by March 31, 2017. The information shown may required modification following completion of the plan.

NR = Not Reported

Note: Margin of Safety calculated by dividing the available water for each demand category by the demand for each demand category.

DPH has implemented an internal Capacity Development Assessment (CDA) program to evaluate the technical, managerial, and financial capacity of CWSs that serve fewer than 1,000 people. A preliminary analysis of 107 CWS in the Eastern PWSMA has been conducted and the results shared with the systems to collect feedback. Although the current results are preliminary and subject to change, the CDA program indicates that 4% of systems assessed in the Eastern PWSMA were rated overall to be lacking adequate capacity to provide water service, 58% were rated to have an overall moderate capacity to provide water service, and 38% were rated to have an overall adequate capacity to provide water service. A map showing the distribution of these systems across the state is presented as Appended Figure 1. A summary of the CDA scores for technical, managerial, and financial capacity is presented in Appendix F. The preliminary results are encouraging, and the long-term goal of the CDA program is to target specific types of assistance to smaller CWSs.

System reliability and service and supply adequacy are also influenced by drought and the quality and condition of infrastructure utilized to provide water service. CWSs that serve greater than 1,000 people are required to address drought as part of their Emergency Contingency Plans within the WSP process. In addition, many utilities have diversion permits from DEEP or are party to other agreements that restrict withdrawals during periods of low stream flow. Such restrictions are incorporated into the available yields presented on Table 2-5 where appropriate. Smaller systems typically do not have a formal drought plan, but many have experienced a decline in yields during sustained droughts.

Similarly, systems serving greater than 1,000 people are required to have an asset management program for tracking infrastructure age and condition and prioritizing rehabilitation. Many smaller systems have no such program and in some cases can be blindsided by the costs necessary to design and construct replacements. The occurrence of water main leaks and breaks can also prioritize asset replacement. For example, the DEEP typically requires leak detection surveys to be conducted every 5 years as a general condition of diversion permits issued for public water supply and increases the required frequency of the surveys if the percentage of unaccounted-for water versus total production is greater than 15%.

Table 2-5 presents the percentage of unaccounted-for water for utilities in the PWSMA serving greater than 1,000 people. Unaccounted-for water is water that is produced but not accounted for by customer meters or estimated for unmetered nonrevenue uses such as firefighting and main flushing (i.e., legitimate consumption). Typically, unaccounted-for water is considered associated with slow leaks in piping joints, data or metering error, or water theft. A total of 27% of the water systems listed in Table 2-5 had unaccounted-for water percentages greater than 15%. Three of the systems (Groton Long Point Association, the MTUA, and Noank Fire District) are consecutive systems that did not report unaccounted-for nonrevenue water.

Finally, a high per capita residential use may be indicative of systems where water conservation measures could be enacted to increase supply adequacy. Table 2-5 presents the estimated residential per capita water demands for each CWS in the PWSMA serving greater than 1,000 people, and per capita water demands are also presented in Appendix D for the remaining CWS where actual demands are known.

The majority of the larger systems in the Eastern PWSMA have per capita residential demands less than the design standard of 75 gpcd. Two of the systems have reported very high per capita residential demands. In the case of Montville WPCA, the per capita demand includes a significant institutional demand (the Corrigan Correctional Facility) with a very high per capita water usage. Ignoring this

facility, the per capita residential water demand for Montville WPCA is 52 gpcd. In the case of the Noank Fire District, the per capita demand is estimated based on the high seasonal usage experienced during the summer. A total of 35 of the smaller CWS have per capita demand estimates available – of these, only six (17%) are greater than 75 gpcd.

2.5 Assessment of Firefighting Capabilities

Firefighting capabilities were determined from a review of WSPs, PURA annual reports, municipal hazard mitigation plans, and POCDs and were supplemented by personal communications with municipal and system representatives. Table 2-6 presents a summary of firefighting capabilities by municipality. All of the jurisdictions in the Eastern PWSMA maintain some form of fire protection for residents and businesses. Approximately 22 of these municipalities rely in part on CWS in the area.

TABLE 2-6
Firefighting Capabilities by Municipality

Municipality	Name of Community Water System(s) Serving > 1,000 People	Provides Municipal/ Private Fire Protection	Number of Hydrants[1]	Other Municipal Fire Protection[2]
Ashford	None	No	-	SW, TT
Bozrah	Norwich Public Utilities	Yes	NR [A]	DH, SW, TT
Brooklyn	CWC – Crystal Water Division	Yes	32	SW, TT
Canterbury	None	No	-	SW, TT
Chaplin	None	No	-	SW, TT
Colchester	Colchester Sewer & Water Commission	Yes	209	BT, DH, SW, TT
Eastford	None	No	-	SW, TT
East Lyme	East Lyme Water & Sewer Commission	Yes	732	CS, DH, SW, TT
Franklin	Norwich Public Utilities	Yes	NR [A]	DH, SW
Griswold	Jewett City Water Company	Yes	115	2 BT, 10 DH, SW
Groton	Groton Utilities Noank Fire District Groton Long Point Association Aquarion Water Company – Mystic	Yes Yes Yes Yes	767 83 32 180	DH, SW, TT
Hampton	None	No	-	SW, TT
Killingly	CWC – Crystal Water Company	Yes	87	SW, TT
Lebanon	None	No	-	CS, DH, SW, TT
Ledyard (includes Mashantucket)	SCWA, Tower Ferry View Division Mashantucket Pequot Tribal Nation Ledyard WPCA, Gales Ferry Ledyard WPCA, Ledyard Center	No Yes Yes Yes	0 NR 161 33	DH, SW, TT
Lisbon	Jewett City Water Company Norwich Public Utilities	Yes Yes	34 NR [A]	7 DH, SW, TT
Montville (includes Mohegan)	SCWA, Montville Division SCWA, Mohegan Division Montville Water Supply (WPCA) Mohegan Tribal Utility Authority Norwich Public Utilities	No No Yes Yes Yes	0 0 119 NR NR [A]	DH, SW, TT
New London	New London Dept. of Public Utilities	Yes	NR	TT
North Stonington	SCWA, North Stonington Division	No	0	DH, SW, TT

TABLE 2-6
Firefighting Capabilities by Municipality

Municipality	Name of Community Water System(s) Serving > 1,000 People	Provides Municipal/ Private Fire Protection	Number of Hydrants[1]	Other Municipal Fire Protection[2]
Norwich	Norwich Public Utilities	Yes	1,322 [A]	DH, SW, TT
Plainfield	CTWC – Gallup Water Service, Inc. CTWC, Crystal – Plainfield Division	Yes Yes	95 39	SW, TT
Pomfret	None	No	-	SW, TT
Preston	Norwich Public Utilities	Yes	NR [A]	19 DH, SW, TT
Putnam	Putnam WPCA CWC – Crystal Water Company	Yes Yes	263 1	SW, TT
Salem	None	No	-	DH, SW, TT
Scotland	None	No	-	SW, TT
Sprague	Sprague Water & Sewer Authority	Yes	37	9 DH, SW, TT
Sterling	None	No	-	SW, TT
Stonington	Aquarion Water Company – Mystic Westerly Water Department	Yes Yes	243 870 [B]	CS, DH, SW, TT
Thompson	CWC – Thompson Division	Yes	32	SW, TT
Union	None	No	-	SW, TT
Voluntown	None	No	-	7 DH, SW, TT
Waterford	Waterford Utilities Commission	Yes	NR	BT, SW, TT
Windham	Windham Water Works	Yes	752 [C]	CS, DH, SW, TT
Woodstock	Putnam WPCA	Yes	3	SW, TT

1. NR – Not Reported
2. Other Fire Protection Codes: SW = Surface Water; TT = Tanker Trucks; DH = Dry Hydrants; CS = Cisterns; BT = Brush Trucks

A. NPU has fire hydrants in Bozrah, Montville, Preston, Lisbon, and Franklin although exact counts are not available. The value for Norwich is the combined total for Norwich and the other NPU service communities.
B. The Westerly Water Department is divided between Stonington and Westerly, Rhode Island, with the majority of the system in Westerly. The reported hydrant total is the combined total for the entire system.
C. Windham Water Works is divided between Windham and Mansfield, with the majority of the system in Windham. The reported hydrant total is the combined total for the entire system.

Information similar to that presented in Table 2-6 is included in Appendix C for the systems serving fewer than 1,000 people. It should be noted that there are no regulatory requirements for a CWS to maintain firefighting capabilities. Individual requirements for fire protection are addressed indirectly in the application process for a Certificate of Public Convenience and Necessity (Section 16-262m-5(e) of the RCSA) for small water companies that are regulated by PURA in coordination with DPH. A letter from the town where the project is located must be submitted with the application to PURA, indicating whether or not fire protection facilities are required to be included in the design of the water system. The PURA regulations also state that fire protection is not allowed to be provided via hydrants unless the system has more than 150,000 gallons in storage. However, there is no explicit requirement imposed by PURA to provide fire protection.

The majority of larger systems have adequate pressure and system components to provide some form of fire protection to customers within their supply area. Most of the smaller CWS provide little or no fire protection, as indicated in Appendix C.

2.6 Assessment of Major Facilities

Table 2-7 presents data on major facilities for CWS serving greater than 1,000 people. This information is included as Appendix C for systems serving fewer than 1,000 people.

TABLE 2-7
Major Facilities of Community Water Systems Serving >1,000 People

Community Water System	Primary Location Served	Groundwater Supplies	Surface Water Supplies	Treatment	Distribution Pumping	Storage
Aquarion Water Co. – Mystic System	Stonington/ Groton	A, E	A	X	X	X
Colchester Water & Sewer Commission	Colchester	A, E	U	X	X	X
CWC – Crystal Plainfield	Plainfield	A, E	U	X	U	X
CWC – Crystal Thompson	Thompson	A, E	U	X	X	X
CWC – Crystal Water Company	Killingly/ Brooklyn	A, E	I	X	X	X
CWC – Gallup Water Service, Inc.	Plainfield	A, E	U	X	X	X
East Lyme Water & Sewer	East Lyme	A, E	A*	X	X	X
Groton Long Point Association[1]	Groton	U	U	U	U	U
Groton Utilities	Groton	A, E	A	X	X	X
Jewett City Water Company	Griswold/ Lisbon	A	A	X	U	X
Ledyard WPCA – Gales Ferry System	Ledyard	I	U	U	X	X
Ledyard WPCA – Ledyard Center System[1]	Ledyard	I	U	U	U	X
Mashantucket Pequot Tribal Nation	Mashantucket	A, E	U	X	X	X
Mohegan Tribal Utility Authority[1]	Mohegan	U	U	U	U	X
Montville Water Supply (WPCA)[1]	Montville	U	U	U	X	X
New London Department of Utilities	New London	U	A, E	X	X	X
Noank Fire District[1]	Groton	U	U	U	U	X
Norwich Public Utilities	Norwich/ Bozrah/ Franklin/ Preston/ Lisbon	E	A, I	X	X	X
Putnam WPCA	Putnam/ Woodstock	A	A	X	U	X
SCWA – Mohegan Division	Montville	A	U	X	U	X

TABLE 2-7
Major Facilities of Community Water Systems Serving >1,000 People

Community Water System	Primary Location Served	Groundwater Supplies	Surface Water Supplies	Treatment	Distribution Pumping	Storage
SCWA – Montville Division	Montville	A	U	X	U	X
SCWA – North Stonington Div.	North Stonington	A	U	X	U	X
SCWA – Tower-Ferry Division	Ledyard	A	U	X	X	X
Sprague Water & Sewer Commission	Sprague	A	E	X	U	X
Waterford Utilities Commission[1]	Waterford	U	U	U	X	X
Westerly Water Department	Stonington	A	U	X	X	X
Windham Water Works	Windham/ Mansfield	U	A	X	X	X

A = Active, E = Emergency, I = Inactive; U = Unavailable; X = Available
*East Lyme stores groundwater in New London's Lake Konomoc during the winter to meet elevated summer demands (water banking project).
1. Water purchased from another utility via interconnection.

Most CWSs in the region utilize groundwater sources as their primary means of supply. However, several of the larger CWSs maintain reservoirs for primary or emergency supply. New London Department of Utilities, Norwich Public Utilities, and Windham Water Works are the only significant CWSs that rely solely on surface water for drinking water supply. All of the systems serving fewer than 1,000 people utilize well water or springs as their source of supply.

Table 2-8 presents information on identified facility improvements for the larger CWSs.

TABLE 2-8
Planned and/or Identified Expansions/Alterations
for Community Water Systems Serving > 1,000 People

Community Water System	Planned or Identified Expansions/Alterations to Water Supply Facilities
Aquarion Water Co. – Mystic System	Install redundant Mystic River crossing, additional storage tank to enhance fire protection.
Colchester Water & Sewer Commission	Continue future source assessment, consider interconnections, water main extensions and replacements.
CWC – Crystal Plainfield	Complete Level A Aquifer Protection Area Mapping, miscellaneous distribution system improvements, new storage tank, interconnection with Gallup system and Crystal Water Company system.
CWC – Crystal Thompson	Miscellaneous distribution system improvements

TABLE 2-8
Planned and/or Identified Expansions/Alterations
for Community Water Systems Serving > 1,000 People

Community Water System	Planned or Identified Expansions/Alterations to Water Supply Facilities
CWC – Crystal Water Company	Complete Level A Aquifer Protection Area Mapping, miscellaneous distribution system improvements, new storage tank, consider future source assessment, interconnect with Crystal-Plainfield system.
CWC – Gallup Water Service, Inc.	Interconnect Gallup system with Crystal-Plainfield system, installation of high-service main to Industrial Park gradient, replacement of undersized mains, abandonment of inactive supplies, interconnect with Country Mobile Estates system, control unaccounted-for water.
East Lyme Water & Sewer	Install replacement wells, development of regional supply sources, control unaccounted-for water, tank improvements, treatment improvements.
Groton Long Point Association	No major system modifications have been identified.
Groton Utilities	Elevate the dam at Ledyard Reservoir, tank replacements, miscellaneous distribution system improvements, consider development of future supplies, construction of satellite treatment plant.
Jewett City Water Company	Distribution system upgrades, activate additional supply sources, possible future interconnection with CWC – Gallup system.
Ledyard WPCA – Gales Ferry System	Distribution system upgrades, interconnections with SCWA systems
Ledyard WPCA – Ledyard Center System	Distribution system upgrades, interconnections with SCWA systems
Mashantucket Pequot Tribal Nation	Install additional wells and water main extensions and consider interconnections.
Mohegan Tribal Utility Authority	No major system modifications have been identified.
Montville Water Supply (WPCA)	Increase transfers from Groton Utilities, install wells, install redundant north-south water main, miscellaneous distribution system upgrades.
New London Department of Utilities	Increase available supply (through new sources or improvements to existing sources) and distribution system improvements.
Noank Fire District	Replace undersized water mains and hydrants, water system extensions.
Norwich Public Utilities	Implement filter backwash recycling, development of new wells, potential regional interconnections, and distribution system improvements.
Putnam WPCA	Revise Level A Aquifer Protection Area mapping, distribution system upgrades.
SCWA – Mohegan Division	Potential interconnection with Montville WPCA system
SCWA – Montville Division	Potential interconnection with other SCWA systems, additional storage capacity
SCWA – North Stonington Division	Potential interconnection with other water systems, well improvements
SCWA – Tower-Ferry Division	Potential interconnection with Ledyard WPCA system
Sprague Water & Sewer Commission	Develop new wells/reactivate surface water supply, potential interconnection with Norwich Public Utilities, water main extension, and distribution system upgrades.
Waterford Utilities Commission	Distribution system upgrades, identify regional supply sources

TABLE 2-8
Planned and/or Identified Expansions/Alterations
for Community Water Systems Serving > 1,000 People

Community Water System	Planned or Identified Expansions/Alterations to Water Supply Facilities
Westerly Water Department	Distribution system upgrades, potential interconnection with Aquarion Water Company – Mystic system
Windham Water Works	Identify additional sources/increase available supply and distribution system improvements.

Many CWSs are currently interconnected. In particular, the larger water utilities in the southern region of the PWSMA are each interconnected and utilize an *Intra-Regional Water Supply Response Plan* to govern the transfers of water between systems during emergencies. Table 2-9 presents the list of active interconnections between CWSs in the Eastern PWSMA.

TABLE 2-9
List of Existing Interconnections in the Eastern PWSMA

Supplier	Receiver	Town	Average-Day Transfer (mgd)	Year
Groton Utilities	Aquarion Water Company – Mystic	Groton	0.100**	-
Groton Utilities	Groton Long Point Association	Groton	0.120	2015
Groton Utilities	Ledyard WPCA, Gales Ferry System	Groton	0.140	2015
Groton Utilities	Noank Fire District	Groton	0.200	2015
Groton Utilities	Ledyard WPCA – Ledyard Center	Ledyard	0.144	2015
Groton Utilities	Montville Water Supply (via Ledyard WPCA – Gales Ferry System)	Ledyard	0.472	2015
Montville Water Supply	Ledyard WPCA – Gales Ferry System	Ledyard	0.000	2014
Montville Water Supply	SCWA – Hillcrest Division	Montville	0.002	2014
Montville Water Supply	Mohegan Tribal Utility Authority	Montville	0.193	2015
Montville Water Supply	Norwich Public Utilities	Montville	0.000	2014
Montville Water Supply	Waterford Utilities Commission	Montville	0.000	2014
Norwich Public Utilities	Mohegan Tribal Utility Authority	Montville	0.450	2015
Norwich Public Utilities	Montville Water Supply	Montville	0.000	2014
Waterford Utilities Commission	Montville Water Supply	Montville	0.000	2014
Pleasure Valley M.H.P – System #1	Pleasure Valley M.H.P – System #2	Norwich	0.000	2013
Pleasure Valley M.H.P – System #2	Pleasure Valley M.H.P – System #3	Norwich	0.000	2013
Mashantucket Pequot Tribal Nation	Preston Plains Water Company	Preston	0.000	2013

TABLE 2-9
List of Existing Interconnections in the Eastern PWSMA

Supplier	Receiver	Town	Average-Day Transfer (mgd)	Year
CWC Crystal Water Company	Putnam WPCA	Putnam	0.071	2011
Aquarion Water Company – Mystic	Classee Water System-Latimer Point	Stonington	0.003	2013
Aquarion Water Company – Mystic	CWC – Masons Island	Stonington	0.056	2013
New London Department Of Public Utilities	East Lyme Water & Sewer Commission*	Waterford	0.000	2015

* Regional Water Banking Project. Water is directed from East Lyme for storage in Lake Konomoc during periods of low demand during the year, and then purchased back by East Lyme during periods of high demand during the year. The net annual transfer is zero.
** Contractual annual average

Several CWSs have identified future potential interconnections either to promote source redundancy or to meet future supply needs. Table 2-10 lists the systems that are currently pursuing options for future interconnections as determined through review of WSPs, DPH records, and personal communications with persons having an association with the system. Table 2-10 also lists those systems that have identified other potential systems for interconnection. Note that systems typically look to larger utilities to obtain water via interconnection, e.g., Colchester has identified NPU as a potential supplier via interconnection, but NPU has not identified the Colchester Water & Sewer Division as a potential source of supply.

TABLE 2-10
Planned and/or Identified Future Interconnections

Community Water System	Planned and/or Identified Interconnections for Additional Supply
Serving >1,000 People	
Colchester Water & Sewer Commission	Interconnection with nearby CWC systems, East Hampton WPCA, and/or NPU
CWC – Crystal Water Company	Interconnection with CWC – Crystal Plainfield Division
CWC – Gallup Water Service, Inc.	Interconnection with CWC – Crystal Plainfield Division
East Lyme Water & Sewer Commission	Utilize Thames Basin Regional Interconnection and Montville-Waterford Interconnection to bring additional supply along water banking pipeline
Ledyard WPCA (both systems)	Interconnections with nearby SCWA systems
Mashantucket Pequot Tribal Nation	Interconnection with SCWA – North Stonington Division
Montville Water Supply (WPCA)	Increase transfers through Thames Basin Regional Interconnection
New London Department of Public Utilities	Utilize Thames Basin Regional Interconnection and Montville-Waterford Interconnection to bring additional supply
Norwich Public Utilities	Interconnect with Ledyard WPCA and Montville WPCA via Poquetanuck Cove (Route 12) to access water from Groton Utilities
SCWA – Mohegan Division	Interconnection with Montville WPCA
SCWA – Montville Division	Interconnection with SCWA – Seven Oaks Division
SCWA – North Stonington Division	Interconnection with future Town of North Stonington system
Sprague Water & Sewer Commission	Interconnection with NPU

TABLE 2-10
Planned and/or Identified Future Interconnections

Community Water System	Planned and/or Identified Interconnections for Additional Supply
Town of North Stonington	Interconnection with Aquarion Water Company – Mystic system
Waterford Utilities Commission	Utilize Thames Basin Regional Interconnection and Montville-Waterford Interconnection to bring additional supply
Westerly Water Department	Interconnection with Aquarion Water Company – Mystic system
Windham Water Works	Interconnection with University of Connecticut or NPU
Serving <1,000 People	
CWC – Country Mobile Estates System	Interconnection with CWC – Gallup Water Service
Preston Plains Water Company	Increase transfers from Mashantucket Pequot Tribal Nation
Ledyard WPCA (both systems)	Interconnection with nearby SCWA systems
SCWA – Barrett Division	Interconnection with Ledyard WPCA
SCWA – Birchwood Division	Interconnection with SCWA – Mohegan or Montville WPCA
SCWA – Cedar Ridge Division	Interconnection with future Town of North Stonington system
SCWA – Chriswood Division	Interconnection with Ledyard WPCA
SCWA – Lantern Hill Division	Interconnection with Aquarion Water Company – Mystic system
SCWA – Ledyard Center Division	Interconnection with SCWA – Grey Farms Division or Ledyard WPCA

Finally, the opportunity exists for additional interconnections to be formed between utilities that are located within 1,000 feet of each other. This matter will be discussed in the Integrated Report. The systems located within 1,000 feet of one another are presented in Table 2-11. A summary of proximal Non-Community water systems is presented by municipality on Appended Table 1.

TABLE 2-11
Community Water Systems within 1,000 Feet without Existing or Planned Interconnections

Community Water System	Potential Interconnection System(s)
Aquarion Water Company – Mystic	Colonial Efficiency Apartments
Aquarion Water Company – Mystic	SCWA – Lantern Hill Division
Aquarion Water Company – Mystic	Whipples Mobile Home Park
Ashford Hills Apartments	Mar-Lea Park Apartments
CWC – Crystal Water Company	Gorman Road Apartments
CWC – Gallup Water Service, Inc.	Westview Terrace Mobile Home Park
CWC – Plainfield Division	Jumbo Apartments
CWC – Plainfield Division	Moosup Garden Apartments
Jewett City Water Company	Connollys Trailer Park
Kitemaug Orchard Association, Inc.	Jensens, Inc. Marina Cover Residential
Marianapolis Prep School – St. Johns	Marianapolis Prep School – St. Alberts
Meadows Apartments	Thompson Hill Water Company – Beechwood Acres
Montville Water Supply	Independence Village Elderly Housing
Montville Water Supply	SCWA – Birchwood Division
Montville Water Supply	SCWA – Mohegan Division
Montville Water Supply	Thompson Hill Water Company – Beechwood Acres
Moosup Pond Terrace, LLC	Arnio Drive LLC
Norwich Public Utilities	Country Side Drive Association
Norwich Public Utilities	Lisbon Mobile Homes
Norwich Public Utilities	Sunny Waters Mobile Home Park

TABLE 2-11
Community Water Systems within 1,000 Feet without Existing or Planned Interconnections

Community Water System	Potential Interconnection System(s)
Norwich Public Utilities	Thompson Hill Water Company – Beechwood Acres
Pomfret School	The Rectory School
Putnam Water Pollution Control Authority	Pinecrest Condominiums
Round Hill LLC Well #1	Round Hill LLC Well #2
Salem Manor Condominiums System #1	Salem Manor Condominiums System #2
SCWA – Cedar Ridge Division	Northstone Gardens
SCWA – Hillcrest Division	Independence Village Elderly Housing
SCWA – Ledyard Center Division	SCWA – Gray Farms Division
SCWA – Mohegan Division	SCWA – Birchwood Division
SCWA – Montville Division	Freedom Village Elderly Housing
SCWA – Montville Division	SCWA – Seven Oaks
St. Thomas More School – Main System	St. Thomas More School – The Cove
Westchester Hills Condominium Association	Knob Hill Condominiums

3.0 ASSESSMENT OF FUTURE WATER SUPPLY SOURCES

This section presents future water supply sources identified in the region. Information has been obtained from individual WSPs and discussions with representatives of regulatory agencies, regional planning agencies, and CWSs. Table 3-1 identifies systems serving greater than 1,000 people that have identified the potential need for future supply source exploration within the Eastern PWSMA. A discussion of each system follows.

TABLE 3-1
Potential Future Source of Supply Exploration Planned/Needed
for Community Water Systems Serving >1,000 People

Community Water System	None Identified	Within 5-Year Planning Period	Beyond 5-Year Planning Period
Aquarion Water Co. – Mystic System			X
Colchester Water & Sewer Commission		X	X
CWC – Crystal Plainfield	X		
CWC – Crystal Thompson	X		
CWC – Crystal Water Company			X
CWC – Gallup Water Service, Inc.			X
East Lyme Water & Sewer			X
Groton Long Point Association	X		
Groton Utilities		X	X
Jewett City Water Company			X
Ledyard WPCA – Gales Ferry System	X		
Ledyard WPCA – Ledyard Center System	X		
Mashantucket Pequot Tribal Nation			X
Mohegan Tribal Utility Authority	X		
Montville Water Supply (WPCA)		X	X
New London Department of Utilities			X
Noank Fire District	X		
Norwich Public Utilities		X	X
Putnam WPCA			X
SCWA – Mohegan Division			X
SCWA – Montville Division			X
SCWA – North Stonington Div.			X
SCWA – Tower-Ferry Division			X
Sprague Water & Sewer Commission		X	
Waterford Utilities Commission			X
Westerly Water Department			X
Windham Water Works			X

3.1 Aquarion Water Company – Mystic System

As presented in Table 2-5, the Aquarion Water Company – Mystic System is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Future projections by Aquarion Water Company indicate that additional supply sources may be needed beyond the 5-year planning period. Potential future supply sources include the following:

- Well redevelopment
- Install additional wells in basin #2104.
- Install wells in basin #2102.
- Increase supply from Groton Utilities.

Well redevelopment projects will occur as needed. Installing additional wells may not be feasible due to instream flow concerns and/or impacts on other supply sources. While the potential exists for interconnections to be formed with additional nearby water utilities other than Groton Utilities, the Aquarion Water Company believes it to be unlikely at this time that such interconnections will be used to provide active, daily supply for the system.

3.2 Colchester Water & Sewer Commission

As presented in Table 2-5, the Colchester Water & Sewer Commission is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Future projections by the Colchester Water & Sewer Commission indicate that additional supply sources may be needed within and beyond the 5-year planning period. Potential future supply sources include the following:

- Interconnecting with nearby utilities
- Installing replacement wells
- Reactivating inactive supplies
- Constructing new surface water supplies in basin #4702, 4703, or 4704
- Installing new wells in basin #4702, 4705, or 4707

Interconnections with most other utilities near Colchester would be very costly to provide relatively little additional water, except for an interconnection with NPU. Well replacements and redevelopment projects will occur as needed, and bringing inactive supplies back online is a short-term goal. Constructing new reservoirs would carry a significant permitting burden and expense. Development of new water supplies may have potential fisheries and instream flow concerns. Prioritization and evaluation of potential sites for the latter two options would be needed before pursuing a particular option.

3.3 Connecticut Water Company

As presented in Table 2-5, the CWC systems in the Eastern PWSMA are currently meeting average-day and peak-day demands with a sufficient margin of safety. Future projections by CWC indicate that source redundancy is needed beyond 5-year planning period for each of the systems. Potential future supply sources for the CWC systems include interconnecting the Gallup Water Service System, Plainfield

System, and Crystal Water Company system. Additional interconnections may also be considered by CWC.

3.4 East Lyme Water & Sewer

As presented in Table 2-5, East Lyme Water & Sewer is currently meeting average-day and peak-day demands with a sufficient margin of safety. It is likely that East Lyme is also meeting maximum month average-day demands now that the Lake Konomoc Water Banking Project is complete. Future projections by East Lyme Water & Sewer indicate that additional supply sources may be needed beyond the 5-year planning period. Potential future supply sources include the following:

- Installing/developing new groundwater sources
- Developing a multiple-party interconnection agreement via the Thames Basin Regional Interconnection

East Lyme Water & Sewer has long planned to develop additional supply sources at several sites. Such development could occur in coordination with SCWA for a regional supply. The Thames Basin Regional Interconnection between Ledyard and Montville has been identified as a potential option for additional supply from Groton Utilities although this would require coordination between several water systems. Another long-term option could be interconnecting with the CWC – Guilford System once CWC consolidates its systems in Old Lyme.

3.5 Groton Long Point Association

As presented in Table 2-5, the Groton Long Point Association is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Future projections by the Groton Long Point Association indicate that additional supply sources are not needed for the foreseeable future. All future increments of supply are likely to come via the existing interconnection with Groton Utilities.

3.6 Groton Utilities

As presented in Table 2-5, Groton Utilities is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Future projections by Groton Utilities indicate that additional supply sources may be needed within and beyond the 5-year planning period, in part to help meet regional needs. Potential future supply sources include the following:

- Diverting surface water from basin #2205 and/or basin #3003 to existing reservoirs
- Performing dam improvements
- Installing groundwater wells in basin #2000 to augment surface water supply

Performing dam improvements to increase supply is planned within the 5-year planning period. An evaluation of installing groundwater supplies would need to be completed before considering the installation of such wells. Diversion of surface water could have fishery concerns and may carry a significant permitting burden.

While the potential exists for interconnections to be formed with other nearby water utilities, the Groton Utilities believes it to be unlikely at this time that such interconnections will be used to provide

active, daily supply for the system. Instead, Groton Utilities will most likely continue to be a regional supplier of water.

3.7 Jewett City Water Company

As presented in Table 2-5, the Jewett City Water Company is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Future projections by the Jewett City Water Company indicate that additional supply sources may be needed beyond the 5-year planning period. Potential future supply sources include expansion of an existing wellfield in the Quinebaug River basin (#3700). Such an action could have a significant permitting burden due to fisheries and instream flow concerns.

While the potential exists for interconnections to be formed with other nearby water utilities, such interconnections will be very costly to pursue due to the distances involved.

3.8 Ledyard Water Pollution Control Authority

As presented in Table 2-5, the Ledyard WPCA is currently meeting average-day demands in the Gales Ferry system with a sufficient margin of safety. Maximum month average-day and peak-day demands have margins of safety below 1.15. Demands in the Ledyard Center System currently have a sufficient margin of safety for average-day and maximum month day demands, but the margin of safety for peak-day demands is below 1.15. Available water is limited by the current diversion permits and not by the amount of supply available from Groton Utilities. Future projections by Ledyard WPCA indicate that additional supply sources will not be needed for the foreseeable future. Future increments of supply are likely to come via the existing interconnections with Groton Utilities.

3.9 Mashantucket Pequot Tribal Nation

As presented in Table 2-5, the MPTN is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Future projections by MPTN indicate that additional supply sources may be needed beyond the 5-year planning period. Potential future supply sources include the following:

- Expanding an existing wellfield in basin #3002
- Developing new wells in basin #1000
- Interconnecting with nearby water utilities

Expansion of an existing wellfield is most likely to occur as this would occur on tribal land. Development of new wells in the Pawcatuck River basin would require pumping a significant distance across North Stonington and could be developed in coordination with other water utilities. Similarly, interconnecting with other water utilities would require long pipelines with significant associated expense.

3.10 Mohegan Tribal Utility Authority

As presented in Table 2-5, the MTUA is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Potential future sources of supply have not been identified for this system. Future increments of supply are likely to come via the existing interconnections with Montville WPCA and NPU.

3.11 Montville Water Pollution Control Authority

As presented in Table 2-5, the Montville WPCA is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety although maximum month average-day margin of safety is approaching 1.15. Future projections by Montville WPCA indicate that additional supply sources may be needed within and beyond the 5-year planning period. Potential future supply sources include the following:

- Increasing supply from Groton Utilities via Ledyard WPCA
- Development of new wells in basin #3001 and #3005

Increasing supply from Groton Utilities is the first choice as all of the infrastructure is currently in place. Development of new wells could require a significant permitting burden due to potential water resource conflicts with other landowners and instream flow concerns. While the potential exists for interconnections to be formed with other nearby water utilities, the Montville WPCA believes it to be unlikely at this time that any new interconnections will be used to provide active, daily supply for the system.

3.12 New London Department of Utilities

As presented in Table 2-5, the New London Department of Utilities is currently meeting average-day and peak-day demands with a sufficient margin of safety. Maximum month average-day demands currently have a margin of safety below 1.15. Future projections by the New London Department of Utilities indicate that additional supply sources may be needed beyond the 5-year planning period. Potential future supply sources include the following:

- Diverting surface water to existing reservoir system
- Installing new groundwater sources in basin #2203
- Developing a multiple-party interconnection agreement via the Thames Basin Regional Interconnection

Diversion of surface water has the potential to cause instream flow and aquatic habitat concerns and could carry a significant permitting burden. Development of new groundwater sources in basin #2203 could be constrained by water quality concerns such that the cost to provide treatment is not acceptable for the yields that could be realized. Utilizing the Thames Basin Regional Pipeline is a feasible option to provide water to both Waterford Utilities Commission and New London as the infrastructure is currently in place although multiple parties would be involved in the agreement.

3.13 Noank Fire District

As presented in Table 2-5, the Noank Fire District is currently meeting average-day demands with a sufficient margin of safety. Maximum month average-day demands have a margin of safety of 1.15, and peak-day demands are not reported. Future projections by the Noank Fire District indicate that additional supply sources are not needed within or beyond the 5-year planning period. Future increments of supply are likely to come via the existing interconnection with Groton Utilities.

3.14 Norwich Public Utilities

As presented in Table 2-5, NPU is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Future projections by NPU indicate that additional supply sources may be needed within and beyond the 5-year planning period. Potential future supply sources include the following:

- Developing new wellfields in basins #3800 and/or #3900
- Reactivating inactive supply sources
- Installing backwash recycling at treatment plants

Installing backwash recycling at its treatment plants is a short-term goal. Reactivating the inactive reservoirs would be costly due to the need to replace all of the existing treatment facilities, and the current infrastructure may be insufficient. There would be a high cost to receive relatively limited yield from these sources. Evaluation of potential new source locations is ongoing but is constricted by water quality concerns, site constraints, and the distance from the system. The potential exists that a site on the Shetucket River could be used as a regional supply source with shared development occurring with one or more other utilities.

3.15 Putnam Water Pollution Control Authority

As presented in Table 2-5, the Putnam WPCA is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Future projections by Putnam WPCA indicate that additional supply sources may be needed beyond the 5-year planning period. Potential future supply sources include development of groundwater supplies in basin #3400 and/or basin #3708. However, the preliminary locations are not economically feasible until the system expands toward the potential wellfield locations. While the potential exists for interconnections to be formed with additional nearby water utilities, the Putnam WPCA believes it to be unlikely at this time that such interconnections will be used to provide additional active, daily supply for the system.

3.16 Southeastern Connecticut Water Authority

As presented in Table 2-5, the SCWA systems are currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Future projections by SCWA indicate that additional supply sources may be needed beyond the 5-year planning period. Potential future supply sources include the following:

- Interconnecting with nearby water utilities
- Developing new sources in basins #3000, #3004, and #3906

In some cases, large water utilities are proximal to SCWA systems such that interconnecting would be relatively inexpensive. In other cases, such interconnections would be costly due to the distances involved. Consolidation of existing SCWA systems via interconnections could also be pursued on a long-term basis to increase system redundancy if funding is available although pressure differences may prevent a true consolidation of some systems. Development of new sources could have instream flow concerns and present a significant permitting burden. If a new source is pursued, a source that could help more than one SCWA system (or the region) meet its needs would help defray the cost of development.

3.17 Sprague Water & Sewer Commission

As presented in Table 2-5, the Sprague Water & Sewer Commission is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Future projections by the Sprague Water & Sewer Commission indicate that additional supply improvements may be needed within the 5-year planning period to increase system redundancy. Potential future supply sources include the following:

- Reactivating inactive reservoir
- Interconnecting with nearby utilities

Reactivating the inactive reservoir is a short-term goal to provide redundancy to the system. Interconnecting with nearby water utilities would be very costly due to the distances involved. Such interconnections are unlikely to occur unless other large utilities extend their systems closer to Sprague.

3.18 Waterford Utilities Commission

The Waterford Utilities Commission has a contract with New London to provide all necessary supply without limitation. Future projections by the Waterford Utilities Commission indicate that additional supply sources may be needed beyond the 5-year planning period. Potential future supply sources include the following:

- Pursing development of new sources in conjunction with New London Department of Utilities
- Developing a multiple-party interconnection agreement via the Thames Basin Regional Interconnection

Development of new supply sources does not necessarily need to occur in concert with New London but is contractually obligated to occur when combined system demands reduce the combined system margin of safety to a certain threshold. An evaluation of potential supply sources has not yet occurred. Utilizing the Thames Basin Regional Pipeline is a feasible option to provide water to both Waterford Utilities Commission and New London as the infrastructure is currently in place although multiple parties would be involved in the agreement.

3.19 Westerly Water Department

As presented in Table 2-5, the Westerly Water Department is currently meeting average-day and peak-day demands with a sufficient margin of safety. Maximum month average-day demands and the associated margin of safety were not reported. Future projections by Westerly Water Department indicate that additional supply sources may be needed beyond the 5-year planning period. Potential future supply sources include the following:

- Reactivating an inactive well
- Developing a new well in basin #1000
- Developing new sources in Rhode Island

Reactivating the inactive well may not be feasible due to water quality concerns. Well development in Connecticut was considered by Westerly Water Department to be prohibitively more expensive than in Rhode Island due to the significant permitting burden such that new sources for this system will likely be developed in Rhode Island.

3.20 Windham Water Works

As presented in Table 2-5, the Windham Water Works is currently meeting average-day, maximum month average-day, and peak-day demands with a sufficient margin of safety. Future projections by Windham Water Works indicate that additional supply sources may be needed beyond the 5-year planning period. Potential future supply sources include the following:

- Additional withdrawals from existing reservoir
- Interconnecting/shared source creation with nearby utilities

Due to potential instream flow issues, additional withdrawals from the existing reservoir may require an agreement with the United States Army Corps of Engineers to manage upstream releases. Creating interconnections with other utilities is feasible but is likely to be expensive given the distances involved.

4.0 EXISTING SERVICE AREAS AND DONOR BASINS

4.1 Existing Service Areas

Appended Figure 2 delineates existing service areas within the region. Non-Community water systems are typically very limited and are denoted by a point. CWS boundaries were determined based upon individual WSP mapping, legal documents, and information from CWSs.

Table 4-1 identifies the enabling legislation for each CWS in the region serving greater than 1,000 people. Where available, the reference for the original act of the General Assembly or associated special act is provided. The information that follows has been gathered from a variety of sources through the assistance of system representatives as well as staff of the various town offices.

TABLE 4-1
Summary of Enabling Legislation for Community Water Systems Serving >1,000 People

Community Water System	Charter Service Area	Enabling Legislation Reference
Aquarion Water Co. – Mystic System	Mystic, Mystic Bridge, Borough of Stonington, Mystic River, Noank, Groton School District #11, and immediate vicinity	Special Act 187 – Incorporating the Mystic Water Company, April 13, 1887, as amended; Special Act 399 – Adding Groton School District, June 11, 1889
Colchester Water & Sewer Commission	Colchester	Colchester Town Charter, November 8, 1994
CWC – Crystal Plainfield	All of Connecticut	Charter modification between Plainfield Water Company and C. Stanton Gallup, June 26, 1952, as amended
CWC – Crystal Thompson	All of Connecticut	House Bill 879 – Incorporating the Masonville Spring Water Company, April 9, 1915, as amended
CWC – Crystal Water Company	All of Connecticut	Special Bill 1 – Incorporating the Crystal Water Company of Danielsonville, March 22, 1882, as amended
CWC – Gallup Water Service, Inc.	All of Connecticut	Special Act 610 – Incorporating the Gallup Water Services, Inc., June 30, 1953
East Lyme Water & Sewer	East Lyme and adjacent municipalities	House Bill 8663 and Town Charter, 1941
Groton Long Point Association	Groton Long Point	Special Act 280 – Incorporating the Groton Long Point Association, April 1, 1931, as amended
Groton Utilities	Groton, Ledyard	Groton City Charter, Articles V, VII, and IX, May 4, 1987

TABLE 4-1
Summary of Enabling Legislation for Community Water Systems Serving >1,000 People

Community Water System	Charter Service Area	Enabling Legislation Reference
Jewett City Water Company	Griswold	House Joint Resolution 65 – Incorporating the Jewett City Water Company, May 25, 1893
Ledyard WPCA – Gales Ferry System	Ledyard	Special Act 284, 1959, Town of Ledyard Ordinance #9 and #11, September 1979; Town Ordinance No. 106, December 2006; Town Ordinance No. 134, June 2014.
Ledyard WPCA – Ledyard Center System		
Mashantucket Pequot Tribal Nation	Mashantucket	Mashantucket Pequot Tribal Nation Constitution and Bylaws, Article X, as amended
Mohegan Tribal Utility Authority	Mohegan	Mohegan Tribe Code of Ordinances, Article IV, 1995, as amended
Montville Water Supply (WPCA)	Montville	Montville Town Charter, Section 408, November 1, 1990
New London Department of Utilities	Salem, East Lyme, Waterford, Montville, and New London	Ordinance Relative to Water and Sewer System, February 9, 1925; Special Act, 1971
Noank Fire District	Noank Fire District	Special Act, 1921, Special Act 288, 1961
Norwich Public Utilities	Norwich and adjacent communities	Act of 1886 General Assembly, City Charter, 1951, as amended
Putnam WPCA	Pomfret, Putnam, Woodstock	Special law of General Assembly for Putnam Aqueduct Company, 1869, as amended
SCWA – Mohegan Division	Bozrah, Colchester, East Lyme, Franklin, Griswold, Groton, Ledyard, Lisbon, Montville, New London, North Stonington, Norwich, Preston, Salem, Sprague, Stonington, Voluntown, and Waterford	Special Act 381 of 1967
SCWA – Montville Division		
SCWA – North Stonington Div.		
SCWA – Tower-Ferry Division		
Sprague Water & Sewer Commission	Sprague	Special Act 354 authorizing purchase of Baltic Water Company and establish water and sewer authority, July 6, 1967
Waterford Utilities Commission	Waterford	Special Act 172, 1963, Town Charter
Westerly Water Department	North Stonington, Stonington	Special Act 476 of 1899, Public Act 92-14
Windham Water Works	Windham Mansfield, Lebanon	Consolidation Ordinance of Town of Windham and City of Willimantic, Chapter VII, December 15, 1982

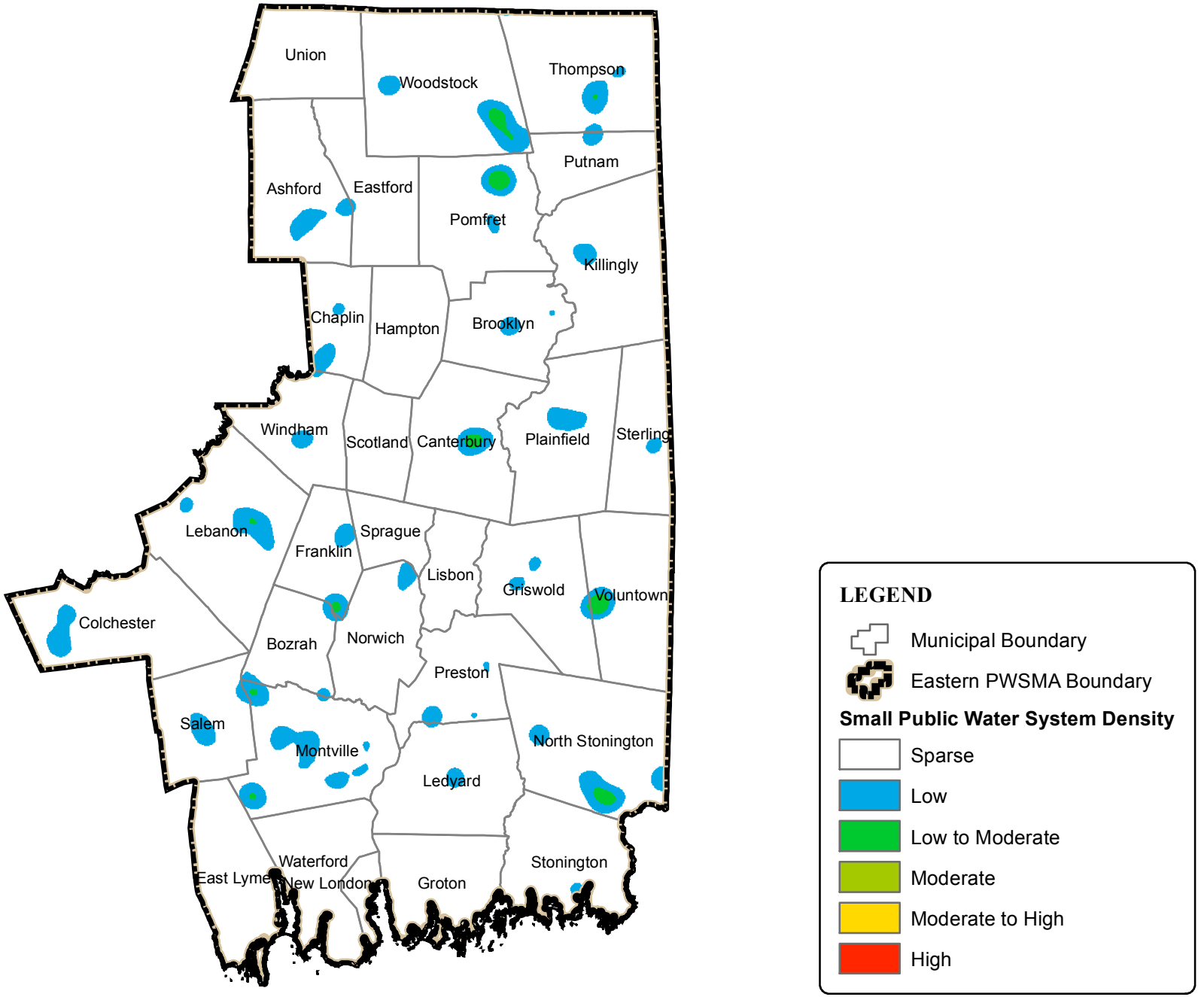
Source: Individual WSPs, specific legislative and municipal documents, and/or personal communications.

The majority of the enabling legislation for the larger water systems falls under a special act or municipal charter, some of which date to the 1800s. Municipal charters are also commonly used for establishing water servicing rights for municipalities. However, such as in the case of Colchester, one or more organizations may have been superseded by the current charter. For example, prior to Town Charter, governing entities for provision of water in Colchester were the Utilities Commission (established under the Consolidation Ordinance of Colchester) and the Water Board (established under a House Bill in 1937).

The 27 CWSs serving greater than 1,000 people have a customer base that spans 20 municipalities, four of which are the urban centers of the region. Service in the remaining municipalities is generally limited to smaller areas where higher-density development is prevalent. It is interesting to note that the majority of municipalities serviced are either in close proximity to an urban center or Interstate 395, except for the municipality of Colchester.

Figure 4-1 presents the density of public water systems serving fewer than 1,000 people in the Eastern PWSMA, including both CWSs and Non-Community systems. High- or moderate-density clusters of small public water systems do not exist in the Eastern PWSMA. Low-to-moderate density clusters of small public water systems can be found in Bozrah, Canterbury, Franklin, Lebanon, Montville, North Stonington, Pomfret, Voluntown, and Woodstock.

Also of interest, CGS 7-234, as passed in 1967, reaffirmed the authority of municipalities to provide water service and further established that any town, city, borough, or district organized for municipal purposes may acquire, construct, and operate a water system where there are no existing private waterworks systems or where private owners of existing systems are willing to sell. Then, in the early 1980s, CGS 16-262m was passed, providing construction specifications for CWSs, including the requirement to obtain a certificate of public convenience and necessity from the Department of Public Utility Control (now PURA) for any construction or expansion of a water supply system. This certificate process was revised in 1984 to provide the opportunity for DPH to participate in the process and revised again through Public Act 16-197 to have DPH govern the process with minimal involvement of PURA. The majority of CWSs was created prior to 1984 and therefore predates the act.



SOURCE(S):
CT DPH; CT DEEP

N

FIGURE 4-1: SMALL PUBLIC WATER SYSTEM DENSITY

WATER SUPPLY ASSESSMENT
EASTERN PWSMA
LOCATION: STATE OF CONNECTICUT

Map By:	SJB
MMI#:	1017-05-02
Original:	8/16/2016
Revision:	8/24/2016
Scale:	1 in = 40,000 ft

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4.2 Summary of Source Water and Service Areas

Table 4-2 summarizes the source water area and service area for CWSs serving more than 1,000 people. Sources and recipients are listed by municipalities and sub-regional drainage basins.

TABLE 4-2
Generalized Summary of Donor Subregional Basins for Community Water Systems Serving > 1,000 People

Community Water System	Source Area Municipalities or Interconnected Systems[1]	Service Area Municipalities	Source Subregional Basins[2]	Recipient Subregional Basins[3]
Aquarion Water Co. – Mystic System	Stonington, Groton Utilities*	Groton, Stonington	2102, 2104	2000, 2101, 2102, 2104, 2105, 2106
Colchester Water & Sewer Commission	Colchester	Colchester	4702, 4703	3903, 4702, 4703
CWC – Crystal Plainfield	Killingly	Killingly, Plainfield	3700	3500, 3503, 3700, 3712
CWC – Crystal Thompson	Thompson	Thompson	3300	3300
CWC – Crystal Water Company	Brooklyn, Killingly	Brooklyn, Killingly	3400, 3700	3400, 3404, 3700, 3711
CWC – Gallup Water Service, Inc.	Plainfield	Plainfield	3713	3700, 3712, 3713
East Lyme Water & Sewer	East Lyme, New London Department of Utilities*	East Lyme, Montville, Waterford	2205, 2206	2000, 2202, 2203, 2204, 2205, 2206, 2207
Groton Long Point Association	Groton Utilities*	Groton	Various	2000
Groton Utilities	Groton, Ledyard	Groton	2107, 3000	2000, 2107, 3000
Jewett City Water Company	Griswold	Griswold	3700, 3713	3600, 3700, 3713
Ledyard WPCA – Gales Ferry System	Groton Utilities*	Ledyard	Various	3000, 3003
Ledyard WPCA – Ledyard Center System	Groton Utilities*	Ledyard	Various	2103, 2104, 2105, 2107, 3000
Mashantucket Pequot Tribal Nation	Mashantucket (surrounded by Ledyard)	Ledyard, Mashantucket, North Stonington	3002	2103, 2104, 3002
Mohegan Tribal Utility Authority	Montville WPCA (from Groton Utilities)*, Norwich Public Utilities*	Mohegan (surrounded by Montville)	Various	3000, 3001
Montville Water Supply (Montville WPCA)	Ledyard WPCA (from Groton Utilities)*	Ledyard, Montville	Various	3000, 3001, 3004, 3005
New London Department of Utilities	Montville, Salem, Waterford	New London	2202, 2203, 3006	2000, 2201, 3000
Noank Fire District	Groton Utilities*	Groton	Various	2000

TABLE 4-2
Generalized Summary of Donor Subregional Basins for Community Water Systems Serving > 1,000 People

Community Water System	Source Area Municipalities or Interconnected Systems[1]	Service Area Municipalities	Source Subregional Basins[2]	Recipient Subregional Basins[3]
Norwich Public Utilities	Colchester, Montville	Bozrah, Franklin, Lebanon, Lisbon, Montville, Norwich, Preston	3005, 3904	3000, 3001, 3003, 3005, 3800, 3804, 3900, 3904, 3906, 3907
Putnam WPCA	Putnam, Woodstock, CWC-Crystal Water Company*	Putnam, Thompson, Woodstock	3700, 3708	3700, 3708
SCWA – Mohegan Division	Montville	Montville	3000	3000, 3005
SCWA – Montville Division	Montville	Montville	3004	2202, 3004
SCWA – North Stonington Division	North Stonington	North Stonington	1004	1004
SCWA – Tower-Ferry Division	Ledyard	Ledyard	3000	2107, 3000
Sprague Water & Sewer Commission	Sprague	Sprague	3800	3800, 3804
Waterford Utilities Commission	New London Department of Utilities*	Montville, Waterford	Various	2000, 2201, 2203, 2204, 3000, 3006
Westerly Water Department	Westerly, Rhode Island	Stonington; Westerly, Rhode Island	1000	1000, 1004, 2000, 2101
Windham Water Works	Mansfield, Windham	Mansfield, Windham	3200	3100, 3200, 3208, 3800

1. As it is not possible in many cases to determine the source of water that travels through a particular interconnection when there are many sources in the donor system, only the donor system is listed here.
2. For system sources only, not for water obtained through interconnections (except where noted).
3. For system service area only, not for water sold through interconnections.

* Water obtained via interconnection.

5.0 POPULATION AND PROJECTED GROWTH

5.1 Municipal Classifications and Community Water System Population

The Eastern PWSMA contains 35 municipalities with a wide range of land area, total population, average household size, and population density. Such information is necessary to provide a baseline from which to project population and water demands into the future. A summary of municipal characteristics is presented in Table 5-1.

TABLE 5-1
Summary of Municipal Characteristics for Eastern PWSMA

Municipality	Land Area (Sq. Mi)	Population Density per Sq. Mi	2014 Population Estimate	Average Household Size (2010)
Ashford	38.8	111.3	4,259	2.51
Bozrah	20.0	131.4	2,622	2.60
Brooklyn	29.0	283.1	8,254	2.55
Canterbury	39.9	128.6	5,088	2.65
Chaplin	19.4	118.8	2,262	2.51
Colchester	49.1	327.3	16,192	2.68
East Lyme	34.0	563.5	19,140	2.36
Eastford	28.9	60.5	1,734	2.53
Franklin	19.5	98.6	1,984	2.62
Griswold	35.0	341.5	11,916	2.57
Groton	31.3	1,281.6	40,167	2.31
Hampton	25.0	74.5	1,859	2.49
Killingly	48.5	358.1	17,172	2.52
Lebanon	54.1	135.1	7,309	2.72
Ledyard	38.1	395.0	15,121	2.67
Lisbon	16.3	266.1	4,342	2.61
Montville	42.0	466.0	19,635	2.58
New London	5.5	5,021.8	27,374	2.30
North Stonington	54.3	97.6	5,288	2.58
Norwich	28.3	1,430.8	40,178	2.41
Plainfield	42.3	364.2	15,135	2.66
Pomfret	40.3	105.4	4,179	2.57
Preston	30.9	152.9	4,748	2.53
Putnam	20.3	472.1	9,416	2.33
Salem	29.0	143.1	4,184	2.72
Scotland	18.6	92.8	1,694	2.71
Sprague	13.2	226.1	2,980	2.63
Sterling	27.2	140.8	3,773	2.77
Stonington	38.7	479.2	18,512	2.25
Thompson	47.0	201.2	9,308	2.51
Union	28.7	29.8	846	2.56
Voluntown	39.0	66.7	2,593	2.60

TABLE 5-1
Summary of Municipal Characteristics for Eastern PWSMA

Municipality	Land Area (Sq. Mi)	Population Density per Sq. Mi	2014 Population Estimate	Average Household Size (2010)
Waterford	32.8	595.0	19,427	2.38
Windham	27.1	932.4	25,005	2.50
Woodstock	60.5	131.6	7,860	2.53

Sources: Land Area: U.S. Census Bureau
2014 Population Estimate: Connecticut Department of Public Health
Average Household Size: 2010 U.S. Census

In order to clarify the analysis presented herein, the municipalities have been grouped by MMI into three classifications: urban, suburban, and rural as presented in Table 5-2. These classifications were determined based on population density. The general approach used in the municipal classification system is as follows: (1) urban – greater than 1,000 persons per square mile, (2) suburban – between 100 and 1,000 persons per square mile, and (3) rural – fewer than 100 persons per square mile. For purposes of trend analysis, municipalities are not shifted between classifications based on slight changes in density.

TABLE 5-2
Municipal Classification for Eastern PWSMA

Rural	Suburban		Urban
Eastford	Ashford	Plainfield	Groton
Franklin	Bozrah	Pomfret	New London
Hampton	Brooklyn	Preston	Norwich
North Stonington	Canterbury	Putnam	
Scotland	Chaplin	Salem	
Union	Colchester	Sprague	
Voluntown	East Lyme	Sterling	
	Griswold	Stonington	
	Killingly	Thompson	
	Lebanon	Waterford	
	Ledyard	Windham	
	Lisbon	Woodstock	
	Montville		

5.2 Historical Population

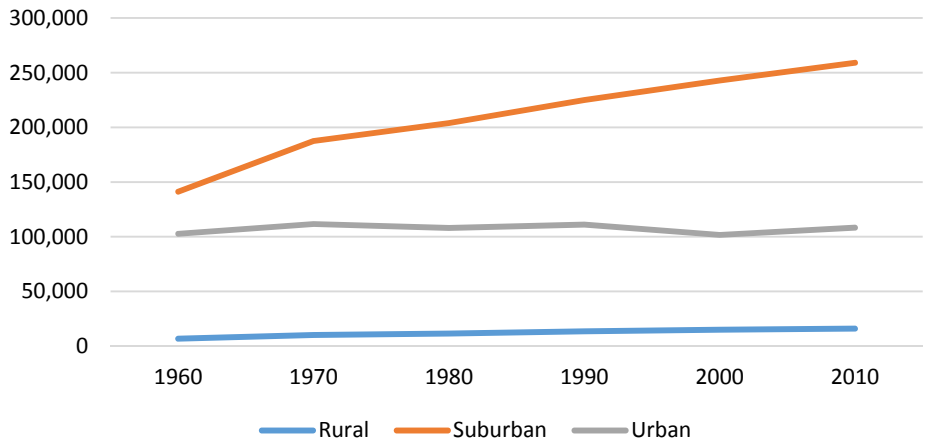
To fully evaluate the population projections for the region, it is necessary to understand past population figures and trends. Historical population figures are shown in Table 5-3. This data is summarized graphically in Figure 5-1. The historical population trends show consistent growth throughout the region in suburban areas while population growth has been relatively flat in urban and rural areas.

TABLE 5-3
Historical Population by Municipality for the Eastern PWSMA

Municipality	Classification	1960	1970	1980	1990	2000	2010
Ashford	Suburban	1,315	2,156	3,221	3,765	4,098	4,317
Bozrah	Suburban	1,590	2,036	2,135	2,297	2,357	2,627
Brooklyn	Suburban	3,312	4,965	5,691	6,681	7,173	8,210
Canterbury	Suburban	1,857	2,673	3,426	4,467	4,692	5,132
Chaplin	Suburban	1,230	1,621	1,793	2,048	2,250	2,305
Colchester	Suburban	4,648	6,603	7,761	10,980	14,551	16,068
East Lyme	Suburban	6,782	11,399	13,870	15,340	18,118	19,159
Eastford	Rural	746	922	1,028	1,314	1,618	1,749
Franklin	Rural	974	1,356	1,592	1,810	1,835	1,922
Griswold	Suburban	6,472	7,763	8,967	10,384	10,807	11,951
Groton	Urban	29,937	38,244	41,062	45,144	39,907	40,115
Hampton	Rural	934	1,129	1,322	1,578	1,758	1,863
Killingly	Suburban	11,298	13,573	14,519	15,889	16,472	17,370
Lebanon	Suburban	2,434	3,804	4,762	6,041	6,907	7,308
Ledyard	Suburban	5,395	14,837	13,735	14,913	14,687	15,051
Lisbon	Suburban	2,019	2,808	3,279	3,790	4,069	4,338
Montville	Suburban	7,759	15,662	16,455	16,673	18,546	19,571
New London	Urban	34,182	31,630	28,842	28,540	25,671	27,620
North Stonington	Rural	1,982	3,748	4,219	4,884	4,991	5,297
Norwich	Urban	38,506	41,739	38,074	37,391	36,117	40,493
Plainfield	Suburban	8,884	11,957	12,774	14,363	14,619	15,405
Pomfret	Suburban	2,136	2,529	2,775	3,102	3,798	4,247
Preston	Suburban	4,992	3,593	4,644	5,006	4,688	4,726
Putnam	Suburban	8,412	8,598	8,580	9,031	9,002	9,584
Salem	Suburban	925	1,453	2,335	3,310	3,858	4,151
Scotland	Rural	684	1,022	1,072	1,215	1,556	1,726
Sprague	Suburban	2,509	2,912	2,996	3,008	2,971	2,984
Sterling	Suburban	1,397	1,853	1,791	2,357	3,099	3,830
Stonington	Suburban	13,969	15,940	16,220	16,919	17,906	18,545
Thompson	Suburban	6,217	7,580	8,141	8,668	8,878	9,458
Union	Rural	383	443	546	612	693	854
Voluntown	Rural	1,028	1,452	1,637	2,113	2,528	2,603
Waterford	Suburban	15,391	17,227	17,843	17,930	19,152	19,517
Windham	Suburban	16,973	19,626	21,062	22,039	22,857	25,268
Woodstock	Suburban	3,177	4,311	5,117	6,008	7,221	7,964

Source: U.S. Census Bureau 1960 through 2010

Figure 5-1: Population Growth by Municipality Classification: Eastern PWSMA



A brief overview of population trends follows. It is divided into urban, suburban, and rural categories.

Urban

Taken together, the three urban municipalities of Groton, New London, and Norwich have been roughly flat with minor fluctuations since 1960. All three urban municipalities have had modest growth from 2000 to 2010.

Suburban

As a group, the population in suburban municipalities had the greatest rate of increase from 1960 to 1970, mirroring the Baby Boom and a period of rapid suburbanization in America. While the rate of growth has slowed since 1970, the suburban population is still trending upward and is the largest share of the total population in this region.

Rural

The rural municipalities of Eastford, Franklin, Hampton, North Stonington, Scotland, Union, and Voluntown have a very low share of total population in the Eastern PWSMA but have seen modest increases in population from 1960 to 2010.

5.3 Municipal Population Projections

Two sets of population projections are presented herein, produced by the Connecticut DOT and the Connecticut State Data Center.

- The Connecticut DOT produces internal population projections as part of its travel demand forecasting. According to DOT[3], land use data (population, employment, etc.) forms the basis for the amount and type of activity in a region. Connecticut DOT develops land use forecasts in cooperation with the OPM and the regional councils of governments. In general, as these projections are used to design and evaluate alternative highway proposals, it is believed that they

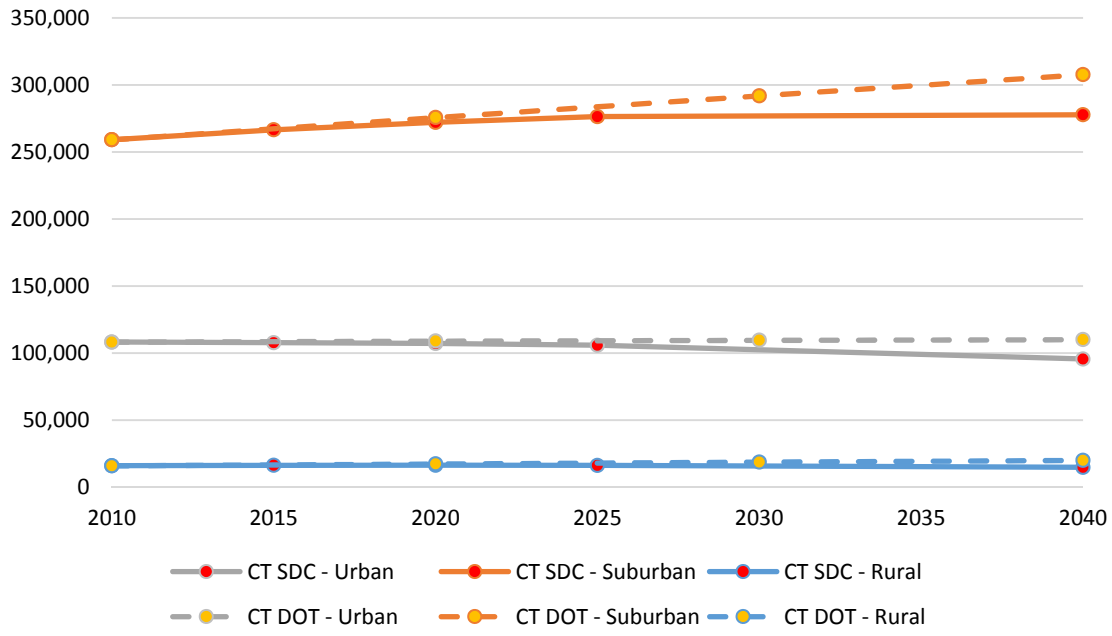
[3] http://www.ct.gov/dot/cwp/view.asp?A=1383&Q=259806

tend toward overestimating potential population in order to ensure reasonable levels of service and appropriate lead times.

- The Connecticut State Data Center provides population projections to assist state agencies, nonprofit organizations, businesses, governments, and centers/organizations to identify potential population changes in the future. These projections are based on population data from the 2000 and 2010 census and birth and mortality data from the Connecticut DPH[4]. As such, they are less driven by land use buildouts and more driven by population flux such that for many Connecticut communities the population is projected to decrease through 2040.

According to population projections published by the Connecticut DOT, the regional population is projected to experience steady but not dramatic growth. Urban areas are projected to have flat to modest growth. The suburban municipalities are projected to steadily increase. Population in the majority of the rural municipalities is projected to grow slowly. Table 5-4 presents population projections for the Eastern PWSMA. Figure 5-2 presents these future projections by municipal classification for the Eastern PWSMA.

Figure 5-2: Population Projections by Classification for Eastern PWSMA



[4] http://ctsdc.uconn.edu/2015_2025_projections/

TABLE 5-4
Population Projections by Municipality for the Eastern PWSMA

Municipality	Classification	2010 Pop.	CT SDC 2015 Proj.	CT SDC 2020 Proj.	CT SDC 2025 Proj.	CT SDC 2040 Proj.	CT DOT 2020 Proj.	CT DOT 2030 Proj.	CT DOT 2040 Proj.
Ashford	Suburban	4,317	4,413	4,483	4,521	4,374	4,646	4,967	5,281
Bozrah	Suburban	2,627	2,772	2,899	3,019	3,291	2,775	2,919	3,060
Brooklyn	Suburban	8,210	8,671	9,079	9,474	10,363	8,966	9,703	10,425
Canterbury	Suburban	5,132	5,332	5,483	5,607	5,648	5,644	6,143	6,632
Chaplin	Suburban	2,305	2,293	2,262	2,202	1,868	2,459	2,609	2,756
Colchester	Suburban	16,068	16,543	16,925	17,242	17,304	18,560	20,990	23,371
East Lyme	Suburban	19,159	19,162	18,993	18,714	17,004	20,746	22,293	23,809
Eastford	Rural	1,749	1,822	1,871	1,903	1,880	1,965	2,176	2,383
Franklin	Rural	1,922	1,964	1,986	2,001	1,965	2,021	2,118	2,213
Griswold	Suburban	11,951	12,584	13,155	13,663	14,562	12,846	13,719	14,574
Groton	Urban	40,115	39,179	38,172	36,702	29,601	40,273	40,372	40,441
Hampton	Rural	1,863	1,889	1,894	1,878	1,647	2,025	2,183	2,338
Killingly	Suburban	17,370	17,738	17,974	18,080	17,617	18,225	19,059	19,876
Lebanon	Suburban	7,308	7,476	7,592	7,684	7,650	8,072	8,817	9,547
Ledyard	Suburban	15,051	15,016	14,790	14,437	12,758	15,446	15,831	16,208
Lisbon	Suburban	4,338	4,435	4,504	4,571	4,535	4,656	4,966	5,270
Montville	Suburban	19,571	21,824	23,902	25,850	30,548	20,506	21,417	22,310
New London	Urban	27,620	25,729	23,831	21,833	14,155	27,824	27,951	28,040
North Stonington	Rural	5,297	5,328	5,270	5,143	4,430	5,620	5,935	6,244
Norwich	Urban	40,493	42,810	45,132	47,289	51,819	40,896	41,249	41,567
Plainfield	Suburban	15,405	15,759	15,992	16,130	15,960	16,194	16,964	17,718
Pomfret	Suburban	4,247	4,473	4,678	4,876	5,364	4,689	5,120	5,542
Preston	Suburban	4,726	4,739	4,699	4,629	4,236	4,751	4,775	4,799
Putnam	Suburban	9,584	9,935	10,245	10,478	10,729	9,885	10,179	10,467
Salem	Suburban	4,151	4,244	4,295	4,315	4,133	4,696	5,227	5,748
Scotland	Rural	1,726	1,783	1,820	1,833	1,759	1,922	2,113	2,300
Sprague	Suburban	2,984	3,016	3,031	3,024	2,929	2,986	2,987	2,988
Sterling	Suburban	3,830	4,168	4,472	4,742	5,372	4,442	5,038	5,622
Stonington	Suburban	18,545	18,680	18,628	18,484	17,441	19,243	19,923	20,590
Thompson	Suburban	9,458	9,733	9,924	10,073	10,157	9,853	10,238	10,615
Union	Rural	854	912	956	995	1,055	946	1,036	1,124
Voluntown	Rural	2,603	2,590	2,543	2,474	2,088	2,893	3,176	3,453
Waterford	Suburban	19,517	19,543	19,394	19,203	18,145	20,019	20,509	20,989
Windham	Suburban	25,268	25,610	26,046	26,432	26,447	26,530	27,760	28,966
Woodstock	Suburban	7,964	8,324	8,607	8,862	9,258	8,818	9,651	10,467

Source: U.S. Census Bureau 2010; Population Projections: Connecticut State Data Center (SDC) and Connecticut Department of Transportation (DOT)

When the DOT projections are compared to those prepared by the Connecticut State Data Center (CTSDC) in 2012, some discrepancies are noted. For instance, the CTSDC population projections show declining population in core cities such as Groton and New London, with dramatic growth occurring in Norwich. In addition, while the DOT projections show continued population growth across all municipalities, the CTSDC projections show several suburban and rural towns losing population up to 2040. This trend is supported by recent population estimates from the U.S. Census Bureau and

Connecticut Department of Public Health (DPH), which show declining populations in many communities in the region.

When the DOT projections and the CTSDC projections are compiled by classification, similar trends emerge. The urban, suburban, and rural population projections are significantly less for the CTSDC projections through 2040 than for the DOT projections, with the urban and rural populations declining overall and the suburban population showing very slow growth. The CTSDC reports that its population projections will likely be updated by spring 2017 such that they will be available for the Integrated Report.

Both of the population projections are potentially useful. The DOT projections are likely conservatively high, similar to the types of projections often found in WSPs. Like the DOT, larger water utilities are typically engaged in infrastructure planning and need to be prepared well in advance of a spike in population that would require new infrastructure and/or new sources to support. The CTSDC projections likely provide a more realistic estimate of population trends for many communities. Given that new CTSDC projections will likely be available in 2017, selection of which one of projections to use in the Coordinated Water System Plan is deferred to the Integrated Report.

5.4 Community Water System Service Population Projections

Table 5-5 presents existing service population and future projections for the CWSs serving greater than 1,000 people. Current population data was obtained from a variety of sources, including DPH, system representatives, and individual WSPs. Projected populations for the 5-, 20-, and 50-year planning periods were taken from individual WSPs and supplemented by information from system representatives. The 5-year planning period is the 5 years following development of the individual WSP. The 20- and 50-year planning periods are 20 and 50 years following the last decennial census. However, given the range in reference years for the current population and projected population, these planning periods do not necessarily correspond. Nevertheless, the service population projections are useful for planning purposes. Service population data for systems serving fewer than 1,000 people is included as Appendix D.

TABLE 5-5
Existing and Projected Service Population of Community Water Systems Serving >1,000 People

Community Water System	Reference Year	Estimated Current Population Served	5-Year Projected Population Served	20-Year Projected Population Served	50-Year Projected Population Served
Aquarion Water Co. – Mystic System	2005 (WSP)	11,989	14,209	14,953	15,909
Colchester Water & Sewer Commission	2010 (WSP)	4,806	4,987	5,505	6,532
CWC – Crystal Plainfield	2013 (PAR)	1,992	1,936	2,096	2,825
CWC – Crystal Thompson	2013 (PAR)	1,646	1,373	1,428	1,659
CWC – Crystal Water Company	2013 (PAR)	10,099	7,638	8,271	11,153
CWC – Gallup Water Service, Inc.	2013 (PAR)	4,298	3,423	3,707	4,996
East Lyme Water & Sewer	2005 (WSP)	12,973	13,771	15,212	20,503
Groton Long Point Association	2012 (PAR)	3,010	2,404	2,404	2,404
Groton Utilities	2012 (PAR)	38,077	38,077	38,077	38,077
Jewett City Water Company	2015 (PAR)	7,043	4,893	5,312	6,000
Ledyard WPCA – Gales Ferry System	2012 (PAR)	1,600	1,670	1,725	2,070

TABLE 5-5
Existing and Projected Service Population of Community Water Systems Serving >1,000 People

Community Water System	Reference Year	Estimated Current Population Served	5-Year Projected Population Served	20-Year Projected Population Served	50-Year Projected Population Served
Ledyard WPCA – Ledyard Center System	2012 (PAR)	2,400	2,889	3,001	3,289
Mashantucket Pequot Tribal Nation	2009 (WSP)	48,524	NR	NR	NR
Mohegan Tribal Utility Authority	2013 (CCR)	41,663	NR	NR	NR
Montville Water Supply (WPCA)	2015 (WSP)	2,840	2,973	3,640	8,577
New London Department of Utilities	2010 (WSP)	28,045	31,181	32,166	34,166
Noank Fire District	2012 (PAR)	1,830	2,137	2,150	2,200
Norwich Public Utilities	2010 (WSP)	38,919	44,899	46,394	47,750
Putnam WPCA	2012 (WSP)	7,338	NR	NR	7,854
SCWA – Mohegan Division*	2012 (PAR)	3,280	3,280	3,280	3,280
SCWA – Montville Division*					
SCWA – North Stonington Div.*	2012 (PAR)	965	627	627	627
SCWA – Tower-Ferry Division*	2012 (PAR)	3,150	3,150	3,150	3,150
Sprague Water & Sewer Commission	2015 (PAR)	1,200	1,032	1,056	1,110
Waterford Utilities Commission	2015 (WSP)	16,784	16,678	17,000	17,000
Westerly Water Department	2012 (WSP)	33,397	34,673	39,865	NR
Windham Water Works	2008 (WSP)	21,214	21,871	24,675	26,276

Note: Reference year is the reference year of the projection. Type of source is in parentheses.
*Includes all SCWA customers in those communities, including smaller systems.

5.5 Land Uses and Available Land

5.5.1 Overview of the Eastern PWSMA

The Eastern PWSMA includes two Councils of Governments: the Northeast Region (NECCOG) and the Southeast Region (SCCOG). It should be noted that COG boundaries in Connecticut changed in 2015, and the most current Regional POCDs may not correspond with the current boundaries of planning regions.

SCCOG is composed of the municipalities of Bozrah, Colchester, East Lyme, Franklin, Griswold, Groton, Lebanon, Ledyard, Lisbon, Montville, New London, North Stonington, Norwich, Preston, Salem, Sprague, Stonington, Waterford, and Windham. It includes two Tribal Governments (MPTN and the Mohegan Tribe) as members and represents the more populated of the two regional planning areas.

NECCOG is composed of the municipalities of Ashford, Brooklyn, Canterbury, Chaplin, Eastford, Hampton, Killingly, Plainfield, Pomfret, Putnam, Scotland, Sterling, Thompson, Union, Voluntown, and Woodstock. Much of the region is rural with the exception of the Interstate 395 corridor.

The Eastern PWSMA is the least urban of the three Connecticut PWSMA areas. The only three urban municipalities are New London and Groton, at the mouth of the Thames River, and Norwich, which is about 30 miles north on the banks of the Thames River. These more urbanized areas are nearer the shoreline and the Interstate 95 corridor within SCCOG. The rest of the Eastern PWSMA is suburban in

nature according to total population density, with the exception of the rural towns of Eastford, Franklin, Hampton, North Stonington, Scotland, Union, and Voluntown. Five of the seven rural municipalities are in NECCOG.

Before 2015, the Windham Regional Council of Governments (WinCOG) also existed in this area. The WinCOG municipalities have been reallocated to different COGs in the region, and the borders of SCCOG and NECCOG have changed since their last Plan of Conservation and Development (POCD). The 2010 Windham Region Land Use Plan did not include any specific data related to regional land use. An update to the NECCOG and SCCOG regional POCDs are underway but will be completed in 2017. The existing NECCOG regional POCD is from the 1990s and is considered out of date. As of SCCOG's 2007 POCD (which used 2005 Land Use Data), the SCCOG region was, by land area, as follows:

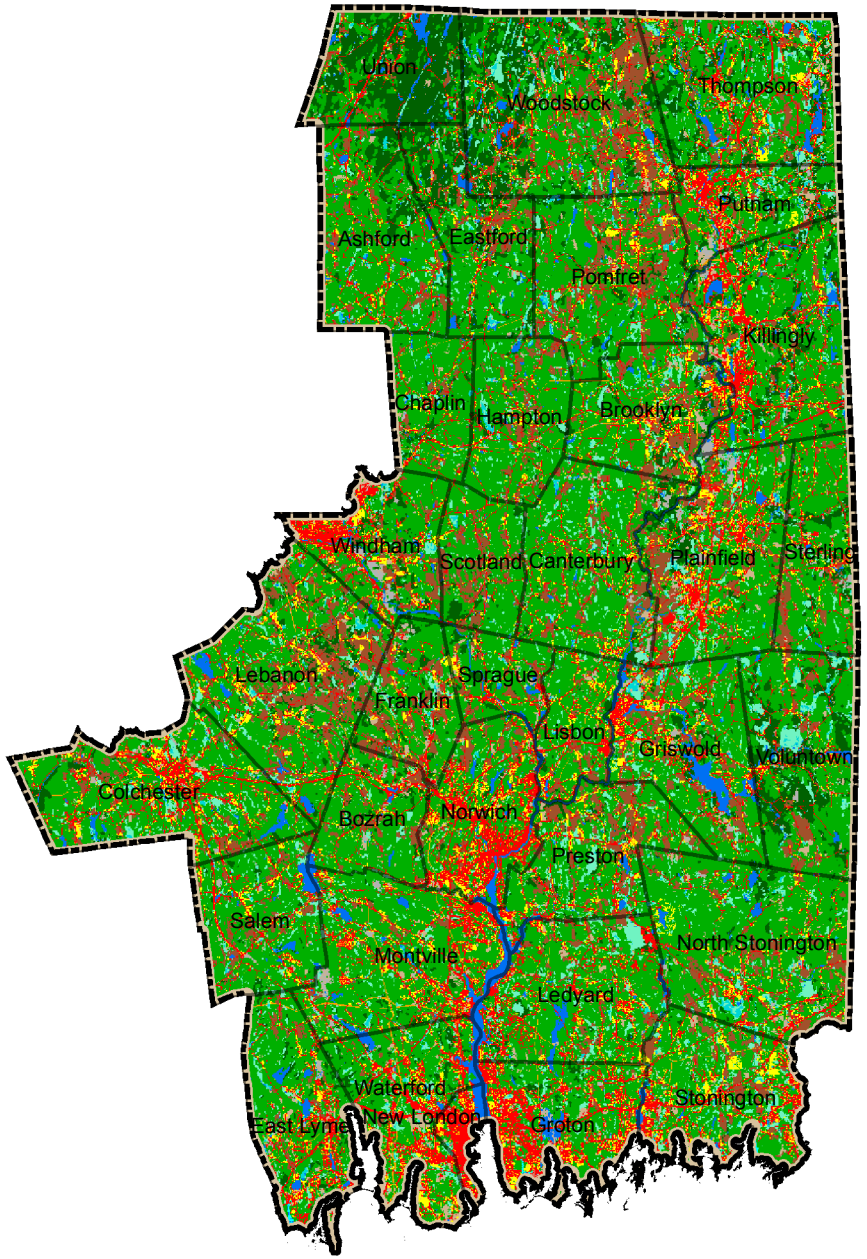
- 23% designated open space land (including agricultural land)
- 42% undeveloped
- 34% developed

While regional land use data is not immediately available for what is now NECCOG, this region is substantially more rural and lower density than the southern portion of the Eastern PWSMA region. Most of the development in the northern portion of the region is concentrated along the Interstate 395 corridor. Development in southern portion of the region is concentrated along the shoreline and along the banks of the Thames River.

5.5.2 Land Uses within the Eastern PWSMA

According to 2010 land use/land cover data provided by the University of Connecticut (UConn) Center for Land Use Education and Research (CLEAR), it was possible to compile and analyze generalized existing land uses in the Eastern PWSMA. Table 5-6 provides a generalized outline of existing land cover types for the Connecticut municipalities participating in the Eastern WUCC process. These land use classes are also presented on Figure 5-3.

As the least-urbanized PWSMA in Connecticut, only 12.1% of land in this area is categorized as developed, with the majority (58.5%) in either coniferous or deciduous forest. A further 8.5% of land is categorized as agricultural fields. While there are many physical development constraints (shallow soils, wetlands, steep slopes, etc.) and protected open space lands, there is still ample land available for development throughout the region. Individual municipalities will vary in land available and will also vary in regulatory approaches to development.



LEGEND

- Town Boundary
- WUCC Boundary

2010 Land Cover

- Developed
- Turf and Grass
- Other Grass
- Ag. Field
- Deciduous Forest
- Utility (Forest)
- Coniferous Forest
- Water
- Non-forested Wetland
- Forested Wetland
- Tidal Wetland
- Barren

SOURCE(S):
CT DPH 2016

N

FIGURE 5-3: EASTERN REGION LAND USE

WATER SUPPLY ASSESSMENT
EASTERN PWSMA
LOCATION: STATE OF CONNECTICUT

Map By:	EB
MMI#:	1017-05-02
Original:	6/16/2016
Revision:	6/16/2016
Scale:	1 in = 41,667 ft

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TABLE 5-6
Land Cover by Category for the Eastern PWSMA

Land Cover Category	Acres	%
Agricultural Field	67,192.6	8.5%
Barren Land	7,158.6	0.9%
Coniferous Forest	66,570.7	8.5%
Deciduous Forest	393,780.8	50.0%
Developed	95,069.6	12.1%
Forested Wetland	39,048.4	5.0%
Nonforested Wetland	5,545.9	0.7%
Other Grasses	16,294.3	2.1%
Tidal Wetland	1,738.3	0.2%
Turf and Grass	37,254.1	4.7%
Utility Corridor	2,791.1	0.4%
Water	54,898.3	7.0%

5.6 Growth Trends

5.6.1 Housing Trends

As with previous analyses, the Eastern PWSMA municipalities have been organized into the three classifications of urban, suburban, and rural for this analysis. Data was collected for the 15-year period from 2000 to 2015. This period has been divided into three 5-year subgroup periods for comparative analysis: the 5-year span from 2000 to 2005 covers the "housing bubble" years, the 5-year span from 2005 to 2010 covers the housing market crash, and the 5-year period from 2010 to 2015 spans the postrecession slow recovery. Table 5-7 presents these figures.[5]

TABLE 5-7
Housing Inventory Estimates in Eastern PWSMA Municipalities, 2000-2015

Municipality	Classification	2000-2005		2005-2010		2010-2015	
		Total	Average Annual	Total	Total	Average Annual	Total
Ashford	Suburban	109	22	48	10	12	2
Bozrah	Suburban	53	11	25	5	7	1
Brooklyn	Suburban	257	51	166	33	66	13
Canterbury	Suburban	118	24	48	10	21	4
Chaplin	Suburban	89	18	38	8	6	1
Colchester	Suburban	416	83	195	39	130	26
East Lyme	Suburban	386	77	352	70	525	105
Eastford	Rural	68	14	17	3	22	4
Franklin	Suburban	40	8	36	7	7	1

[5] http://www.ct.gov/ecd/cwp/view.asp?a=1106&q=250640

TABLE 5-7
Housing Inventory Estimates in Eastern PWSMA Municipalities, 2000-2015

Municipality	Classification	2000-2005		2005-2010		2010-2015	
		Total	Average Annual	Total	Total	Average Annual	Total
Griswold	Suburban	261	52	164	33	20	4
Groton	Urban	682	136	307	61	129	26
Hampton	Rural	110	22	58	12	12	2
Killingly	Suburban	398	80	242	48	62	12
Lebanon	Suburban	228	46	67	13	-3	-1
Ledyard	Suburban	296	59	73	15	96	19
Lisbon	Suburban	76	15	37	7	25	5
Montville	Suburban	322	64	73	15	17	3
New London	Urban	209	42	209	42	175	35
North Stonington	Rural	138	28	50	10	27	5
Norwich	Urban	828	166	308	62	91	18
Plainfield	Suburban	251	50	66	13	37	7
Pomfret	Suburban	122	24	40	8	17	3
Preston	Suburban	130	26	56	11	30	6
Putnam	Suburban	132	26	91	18	10	2
Salem	Suburban	143	29	50	10	38	8
Scotland	Rural	53	11	24	5	-7	-1
Sprague	Suburban	52	10	33	7	9	2
Sterling	Suburban	194	39	64	13	13	3
Stonington	Suburban	390	78	175	35	291	58
Thompson	Suburban	143	29	16	3	37	7
Union	Rural	29	6	9	2	2	0
Voluntown	Rural	52	10	22	4	14	3
Waterford	Suburban	247	49	117	23	38	8
Windham	Suburban	127	25	127	25	23	5
Woodstock	Suburban	361	72	92	18	36	7
	Total Rural	**450**	**91**	**180**	**36**	**70**	**13**
	Total Suburban	**5341**	**1067**	**2491**	**497**	**1570**	**311**
	Total Urban	**1719**	**344**	**824**	**165**	**395**	**79**
	Total All	**7510**	**1502**	**3495**	**698**	**2035**	**403**

Construction in all categories (urban, suburban, and rural) of towns dropped substantially in the second 5-year period examined, largely driven by the sharp crash in housing starts that accompanied the onset of the recent recession of 2008-2009. The decline has continued over the last 5 years, with fewer new housing units added each year than during the previous two 5-year periods.

5.6.2 Zoning

Existing zoning information was obtained from local POCDs and zoning regulations and is presented in Table 5-8. The majority of each community is zoned residential, with some commercial and industrial

zoning prevalent in urban and suburban communities. The majority of smaller communities are zoned primarily residential.

TABLE 5-8
Generalized Zoning

Municipality	Classification	Comment
Ashford	Suburban	Majority of town is zoned Residential-Agricultural; villages are General Commercial (targeted for traditional village land use patterns, pedestrian-friendly); Interstate Interchange Development and Technology Development are focused on specialized economic development.
Bozrah	Suburban	Zoning is predominantly rural/low-density residential. Areas of commercial and industrial zones along Route 2, 208, and 87.
Brooklyn	Suburban	Majority of town is rural agricultural zone. Also has Village Center District, industrial, Mill Mixed Use Development District, and planned commercial zone.
Canterbury	Suburban	Town is zoned for single-family homes on 2-acre lots: 99.8% Rural District, 0.2% Village Commercial.
Chaplin	Suburban	Zones include Rural Agricultural Residence (RAR), Business (B), Light Industry (L), Multifamily Residential (MR), and Aquifer Protection (AZ).
Colchester	Suburban	Intensive development in and around the Town Center, with decreasing density to rural residential.
East Lyme	Suburban	17 zoning districts: 2 gateway districts, 5 residential, 3 commercial, light industrial, 2 special use, 3 beach associations, and Tidal Marsh.
Eastford	Rural	No zoning laws.
Franklin	Suburban	6 zoning districts: 2 commercial, industrial, 2 residential (R-80 and R-120), and PRDD.
Griswold	Suburban	90%+ of Town's land area is currently zoned for residential uses.
Groton	Urban	0.72% commercial, 10.66% industrial, 3.91% mixed residential/commercial, 0.43% mixed res/office, 0.88% open space or conservation, 2.23% residential multi-family, 28.2% residential >1 acre, 41.90% residential <1 acre, and 11.06% ROW. There are separate zoning regulations for the City, Town, Groton Long Point Association, and Noank Fire District.
Hampton	Rural	3 zoning districts: RA-80 Residence/agricultural district, Business, and Planned Business-Industrial. Two small areas zoned business on Route 6.
Killingly	Suburban	POCD suggests that the current zoning code is needlessly confusing and recommends a simplification of the code.
Lebanon	Suburban	8 zoning districts: largest is rural agricultural residence followed by agricultural. Small areas of business, light industry, village business district, and village green district along transportation corridors.
Ledyard	Suburban	Largely residential (R-20 to R-80). Large Tribal Reservation and Resort Commercial Cluster District to the northeast. Some commercial zones along transportation corridors.
Lisbon	Suburban	3 zoning districts for residential (R-40 to R-80), 4 for business village districts, and 2 for industrial.
Montville	Suburban	Residential zones 91.4%, industrial 4.0%, and commercial 2.6%.
New London	Urban	Residential 53%, institutional 15%, commercial 13%, 6% waterfront, 5.5% open space, light industry 3%.
North Stonington	Rural	Nearly 95% zoned residential, and nearly 5% zoned for commercial and industrial uses.
Norwich	Urban	Reorganization of zoning codes recommended in POCD.

TABLE 5-8
Generalized Zoning

Municipality	Classification	Comment
Plainfield	Suburban	3 current zones for residential (30k, 40k, and 60k square feet. RA-30 must have sewer). 2 commercial districts, 3 industrial districts.
Pomfret	Suburban	7 zoning districts: rural residential, Pomfret Street Residential, 2 Village Districts, 3 business/commercial districts.
Preston	Suburban	Residential 85%, Special Lake Amos Protection District 5%, Industrial 3%, Thames River District 4%, Resort Community 2%, less than 1% commercial, planned development district, and Preston City Village District.
Putnam	Suburban	16 zoning districts. Majority agricultural/2-acre residential. Downtown has denser zoning with more industrial and commercial zones.
Salem	Suburban	Majority rural residential. Small pockets of business and industrial zones.
Scotland	Rural	Town is primarily zoned residential.
Sprague	Suburban	91.6% residential zones, 8.3% commercial/industrial zones.
Sterling	Suburban	Town has one zoning district allowing residential and nonresidential uses.
Stonington	Suburban	9 residential zones (93.5%) 9 commercial zones (6.4%), and 3 other (0.2%). The Borough has separate zoning regulations from the Town.
Thompson	Suburban	7 zoning districts: 3 residential (majority R-80), industrial, commercial, NC, and TCPD.
Union	Rural	4 zoning districts: Rural Residential (majority), Commercial/Industrial and Retail Trade (along transportation corridors), and Special Development (one large parcel).
Voluntown	Rural	Town is mostly zoned residential.
Waterford	Suburban	Northern part of town entirely rural residential. Industrial and commercial zoning between I-395 and I-95. Low- to medium-density residential throughout most of town, except along arterials and highways. Large "special districts" in southeast, near shoreline. Village residential and neighborhood business zoning in villages near NE and SW borders of town.
Windham	Suburban	The vast majority of Windham is residentially zoned, with lower density residential zones (R-1 through R-4) in the southern and eastern parts of town, and denser residential zones (R-5 and -6, NPR-1 and -2, and PDD) clustered around Willimantic in the northwest corner of town. Windham's 3 business zones (B-1 to B-3) are also clustered in the northwest corner of town. Its four industrial zones (M-1 to M-4) are spread along major highways, with a large industrial park in the northernmost part of town. 2 commercial zones (C-1 and C-2) are interspersed at the edges of these industrial zones.
Woodstock	Suburban	The vast majority of Woodstock is zoned as "Community District," a zone that permits residential and agricultural uses by site plan, and professional, retail, and most other uses by special permit. Two small "lake districts" surround two of the Town's lakes, and a small industrial park district is located in the southeast corner of town, encompassing approximately 10 parcels.

Table 5-9 presents information on projected buildout presented in each POCD.

TABLE 5-9
Municipal Buildout Analyses from Plans of Conservation and Development

Municipality	Classification	Comment
Ashford	Suburban	No buildout but notes that housing development has been very slow. Small rural town but has variety of housing options including large apartment complexes and dense neighborhoods. Projected to have moderate to negative growth due to aging population. Planned UConn expansion may have an effect. Residential development has been slow in the past decade.
Bozrah	Suburban	No buildout. Bozrah's population grew at a higher rate than other towns in the region (11.5% from 2000 to 2010). Total population remains small. Median age is increasing.
Brooklyn	Suburban	Sufficient sewer system capacity to allow buildout of sewer service area. No buildout analysis of vacant land. Expected to continue slow rate of growth, at about 0.6% annually since 1990. Overall aging of the population.
Canterbury	Suburban	No buildout analysis. 27% growth from 1970 to 2000, pace of growth expected to slow and stabilize. Large expected increase in retirement-age residents.
Chaplin	Suburban	Housing growth has been about 15.5 new units per year for the last decade. Population growth has been slow but steady at about 10-15% growth per decade since 1970.
Colchester	Suburban	No buildout analysis. Residential construction has slowed. 10.4% increase between 2000 and 2010 Census. Growth expected to be modest in the future. Increasing median age.
East Lyme	Suburban	Substantial amounts of land are undeveloped residential or nondedicated open space parcels. 5.75% increase in population from 2007 to 2000 and an 18% increase since 1990. 145 units built in 2000 (66 for assisted living facilities and) and 114 units built in 2007 (50 for age-restricted affordable senior housing).
Eastford	Rural	50% of Town is state forest, conservation land, and rivers.
Franklin	Suburban	No buildout analysis. 4.7% growth in population from 2000 to 2010, with an 8.4% increase in housing. Population is aging.
Griswold	Suburban	No buildout analysis. More than half of area is undeveloped, but also constrained for development. Population grew 4% from 1990 to 2000. Age 55+ grew from 11% of total to 19% of total population over that period.
Groton	Urban	Under current zoning, approximately 4,530 additional dwelling units could be built. At 2010 household sizes (2.31), this could result in 10,464 additional people. Population has been stable, at 0.5% growth from 2000 to 2010. Median age has increased 1.5% over the same period to 33 in 2010.
Hampton	Rural	Approximately 15,300 acres remain open to development, though there are also environmental constraints that would limit full development. 11% growth from 1990 to 2000.
Killingly	Suburban	No buildout analysis. Grew by 11.4% from 2000 to 2011.
Lebanon	Suburban	Buildout for Amston Lake area only: full conversion of existing seasonal homes and vacant lots to year-round occupancy would result in a population increase from 230 to 1,058 year-round residents at the lake. Steady growth (14.3% from 1990 to 2000) but projected to grow at a slightly slower pace in the future due to the aging population.

TABLE 5-9
Municipal Buildout Analyses from Plans of Conservation and Development

Municipality	Classification	Comment
Ledyard	Suburban	No buildout analysis. Population declined by 1.5% from 1990 to 2000.
Lisbon	Suburban	No buildout analysis. 6.6% growth from 2000 to 2010. Rate of growth is expected to continue at a steady pace.
Montville	Suburban	Potential yield of 4,148 new units. 11.2% growth from 1990 to 2000, and 4.7% growth from 2000 to 2007. Growth is projected to continue.
New London	Urban	No buildout analysis. Population has stabilized and experienced decline – from a peak in 1960 to 2000 population declined by 25%.
North Stonington	Rural	No buildout analysis. 6% growth from 2000 to 2010. Projections estimate 0.8% annual growth rate to 2016.
Norwich	Urban	No buildout analysis. After a period of population loss from 1970 to 2000, 2010 saw an increase in population. Higher concentration of people aged 20-35 than the state as a whole.
Plainfield	Suburban	No buildout analysis. 1.8% increase in population from 1990 to 2000. Projections estimate 6-7% growth for the next two decades.
Pomfret	Suburban	No buildout analysis, but suggests that development potential is limited by being 22% wetlands. 11.78% growth between 1980 and 1990, and 22.44% growth between 1990 and 2000. Population projected to continue moderate growth.
Preston	Suburban	No buildout analysis. Population grew 0.8% from 2000 to 2010.
Putnam	Suburban	No buildout analysis. Population has been roughly stable for last 100 years. Population declined by 29 people (0.3%) from 1990 to 2000.
Salem	Suburban	No buildout analysis. Salem has historically been a farming community with small population growth.
Scotland	Rural	No buildout analysis.
Sprague	Suburban	An additional 2,014 dwelling units could be built under current zoning. Population decreased -1.2% from 1990 to 2000. Projected to experience modest growth in the coming decades.
Sterling	Suburban	No buildout analysis.
Stonington	Suburban	Potential yield of 2,803 additional dwelling units, for an increase of 6,307 residents. Population growth of 3.6% between 2000 and 2010. Population is projected to remain roughly flat (0.4% increase) between 2010 and 2020.
Thompson	Suburban	Total projected housing units: 9,500, with a total population of 25,000. 8% growth from 2000 to 2007, with growth projected to continue.
Union	Rural	No buildout analysis. 6.6% growth from 2000 to 2009, to a population of 739. Population is not projected to grow significantly for the next 10 to 20 years.
Voluntown	Rural	No buildout analysis. 3.3% growth from 2000 to 2007 to a population of 2,612.
Waterford	Suburban	12,653 acres of lands that may be developable in the future. From 1920 to about 1970, the population of Waterford grew dramatically from about 4,000 residents to about 17,000 residents. During the 1970s and 1980s, population growth slowed in Waterford. In fact, Waterford was one of the slowest growing communities in southeast Connecticut during the 1980s. Since 1990, Waterford has continued to grow, albeit modestly. Projections on future population growth are mixed.

TABLE 5-9
Municipal Buildout Analyses from Plans of Conservation and Development

Municipality	Classification	Comment
Windham	Suburban	If additional development occurred on minimum lot sizes, 5,438 new single-family (or two-family in R-3) residences could be built. If the additional development occurred on current average lot sizes, 4,076 could be built. Because R-1 and R-3 zones currently have only 1,903 developed parcels, the growth rate could be 214% to 286%. POCD proposes various growth management strategies, but does not provide information on recent or prospective growth trends.
Woodstock	Suburban	2013 analysis estimated that 55 percent of the town, or 20,953 acres, consists of environmentally sensitive areas. 16,800 acres remain available for future development. Between 2001 and 2012, population rose by 572 people to 7,904, a gain of 7.8%. The Connecticut State Data Center at UConn projects that Woodstock's population will be 8,864 by the year 2025, which would be an increase of 960 people or 12.1%.

5.6.3 Conclusions

The population projections show that the urban municipalities are forecast to grow slowly in the coming decades. Rural municipalities are also expected to continue slow, steady growth. The suburban communities will gain continuously throughout this period. Municipalities in the Eastern PWSMA are largely residentially zoned with varying levels of potential buildout possible.

Comparing the percentages of increased total housing of the different classes, the rural class has had the greatest percentage decrease due to starting with the lowest total number. Average new housing units constructed by class and municipality shows that in the period from 2010 to 2015 rural municipalities had an average of 13 units per year, suburban municipalities had 311 units per year, and urban municipalities had 79 units per year. The urban communities had the least percentage drop in housing permits during the Recession.

Due to the recession of 2008-2009, housing construction has slowed considerably, especially within the rural areas. In recent years, the suburban municipalities have been accumulating the most new homes. Due to the cyclic nature of the housing market, it is likely that the most future growth in this region will continue to occur in the suburban areas. However, the three urban municipalities as a group fared comparatively well and should be watched for signs of potentially greater growth.

6.0 STATUS OF WATER SYSTEM PLANNING

6.1 Individual Water System Planning

Table 6-1 presents the status of individual WSPs for CWSs serving greater than 1,000 people in the Eastern PWSMA. All of the utilities serving more than 1,000 people in the Eastern PWSMA have submitted WSPs. Nearly all have currently approved plans although several are out of date.

TABLE 6-1
Individual Water Supply Plan Status

Community Water System	Date Next WSP Due	Date of Most Recently Approved/Revised WSP	Additional Notes
Aquarion Water Co. – Mystic System	2018	2006	Approved 2012
Colchester Water & Sewer Commission	TBD	2012	Approval Pending
CWC – Crystal Plainfield	TBD	2008	Approval Pending
CWC – Crystal Thompson	TBD	2008	Approval Pending
CWC – Crystal Water Company	TBD	2008	Approval Pending
CWC – Gallup Water Service, Inc.	TBD	2008	Approval Pending
East Lyme Water & Sewer	2008-2010	2005	Approved 2007
Groton Long Point Association	2019	2008	Approved 2013
Groton Utilities	TBD	2012	Approval Pending
Jewett City Water Company	TBD	2012	Approved 2014
Ledyard WPCA – Gales Ferry System	TBD	2016	Approval Pending
Ledyard WPCA – Ledyard Center System	TBD	2016	Approval Pending
Mashantucket Pequot Tribal Nation	TBD	2009	Approval Pending
Mohegan Tribal Utility Authority	-	No Plan	WSP not required
Montville Water Supply (WPCA)	TBD	2015	Approval Pending
New London Department of Utilities	TBD	2005	Approval Pending
Noank Fire District	TBD	2009	Approval Pending
Norwich Public Utilities	TBD	2012	Approved 2015
Putnam WPCA	TBD	2012	Modification Pending
SCWA – Mohegan Division	2018	2006	Approval Pending
SCWA – Montville Division	2018	2006	Approval Pending
SCWA – North Stonington Div.	2018	2006	Approval Pending
SCWA – Tower-Ferry Division	2018	2006	Approval Pending
Sprague Water & Sewer Commission	TBD	2012	Approval Pending
Waterford Utilities Commission	TBD	2016	Approval Pending
Westerly Water Department	-	2013	No approval by DPH
Windham Water Works	2017	2012	Approved 2012

WSP = water supply plan and TBD = to be determined.

Most of the plans are 5 or more years old from the completion date, with seven plans more than 10 years old. Additionally, the time from completion to approval is often 5 or more years. This points to a need for a more streamlined review and approval process.

6.2 Municipal Planning

CGS 8-23 requires that planning and zoning commissions "prepare, adopt, and amend a plan of development for the municipality." The purpose of a POCD is to record the vision and ideals of the municipality with respect to its future growth and direction for both public and private development. The plan should provide a long-term perspective of the community but also offer guidance for short-term decision making.

Public Act 85-279 amended CGS 8-23 and CGS 22a-42 to require municipal planning and zoning commissions as well as inland wetland agencies to incorporate consideration of existing and potential surface and groundwater source protection in their local plans and regulations. Table 6-2 lists each municipality, its corresponding plan, and the date of the most recent revision to its plan.

Table 6-2
Summary of Municipal Plans of Conservation and Development

Municipality	Date of Last Publication/ Revision	Comprehensive Planning Horizon	Municipality	Date of Last Publication/ Revision	Comprehensive Planning Horizon
Ashford	11/1/2015	2015-2025	North Stonington	12/12/2013	2013-2023
Bozrah	3/12/2015	2015-2025	Norwich	8/20/2013	2013-2023
Brooklyn	4/1/2011	2011-2021	Plainfield	8/12/2008	2008-2018
Canterbury	8/1/2010	2010-2020	Pomfret	6/18/2002	2002-2012
Chaplin	6/1/2010	2010-2020	Preston	9/30/2014	2014-2024
Colchester	5/20/2015	2015-2025	Putnam	6/27/2016	2016-2026
East Lyme	12/7/2010	2009-2019	Salem	3/20/2012	2012-2022
Eastford	5/10/2016	2016-2026	Scotland	1/1/2007	2007-2017
Franklin	4/6/2013	2013-2023	Sprague	4/4/2007	2007-2017
Griswold	1/1/2007	2006-2016	Sterling	1/1/2009	2009-2019
Groton (City)	6/7/2008	2008-2018	Stonington (Borough)	12/11/2012	2012-2022
Groton (Town)	6/29/2016	2016-2026	Stonington (Town)	5/7/2015	2015-2025
Hampton	11/27/2006	2007-2017	Thompson	11/23/2009	2010-2020
Killingly	3/30/2010	2010-2020	Union	5/19/2010	2010-2020
Lebanon	10/28/2010	2010-2020	Voluntown	11/18/2009	2009-2019
Ledyard	3/4/2010	2003-2013	Waterford	6/8/2015	2015-2025
Lisbon	3/5/2016	2016-2026	Windham	8/23/2007	2007-2017
Montville	4/13/2010	2010-2020	Woodstock	3/12/2015	2015-2025
New London	9/20/2007	2007-2017			

Source: CT OPM as of July 27, 2016, with updates

Most of the plans are relatively up to date and many of the plans do consider public water supply concerns, as presented in Table 6-3 and as summarized on Appended Table 1. However, plans can quickly become outdated as a result of the rapidly changing character of some areas within the region. Within the Eastern PWSMA, several municipalities are due for an update of their 10-year POCD. The municipalities of Griswold, Hampton, Ledyard, New London, Pomfret, Scotland, Sprague, and Windham are currently due or overdue in their POCD update cycle.

Table 6-3
Water Supply Comments Addressed in Municipal Plans of Conservation and Development

Town	Water Supply Comment
Ashford	Small area served by CWC in Warrenville-West Ashford area. Lack of utilities is identified as an issue hindering economic development. Few aquifers for on-site wells and few areas with soils suitable for septic.
Bozrah	Cites survey results that residents would promote sewer/public water lines along Stockhouse Road, Salem Turnpike, etc. Fitchville and Gilman areas of town have access to public water through Norwich. Salem Turnpike area has potential to access utilities from Norwich.
Brooklyn	Majority of homes served by wells. CWC serves businesses and residents in the East Brooklyn area and the Town Center for 500-600 customers. No plans to request extension of system in the next 10 years. Municipal sewer serves ~600, rest on septic.
Canterbury	No significant public water or sewer.
Chaplin	Generally served by on-site artesian wells. CWS serve some businesses and community services. Encouraging the development of public water systems in Natchaug Village and Sherman's Corner is listed as a strategy.
Colchester	Colchester Sewer and Water Commission manages the public water system. Utility extensions are suggested as a strategy to attract business development. The 2010 Utility Infrastructure Study found that the system would benefit from additional water sources, increased storage, and improved system hydraulics.
East Lyme	The East Lyme water system consists of wells located in the Pattagansett River and Bride Brook aquifers. The system serves approximately 6,400 customers.
Eastford	Nearly all of Eastford is within the Natchaug River drainage basin. All of the waterbodies in Eastford in this basin drain to the Willimantic water supply reservoir. Industries that generate a discharge of wastewater or a municipal sewer plan would not be allowed under current state law. All of the homes and businesses utilize individual wells and septic systems and public water and sewer systems are not anticipated.
Franklin	Sewer and water service limited to the Industrial Park. Most of Franklin has on-site septic and individual wells.
Griswold	Water service provided by Jewett City Water Company.
Groton (City)	Water service provided by Groton Utilities.
Groton (Town)	Water service provided by Groton Utilities, including service to Groton Long Point and Noank Fire District.
Hampton	No public water or sewer.
Killingly	Water service provided by three private water companies (of which CWC is the largest) and by private wells.
Lebanon	Most water is provided by private wells except for CWSs at 4 locations.
Ledyard	Dependent on groundwater and reservoirs – nearly 21% of land area is within state-designated public water supply watershed.
Lisbon	Limited public water supplied by Jewett City Water Company.
Montville	Significant land area located in public water supply watersheds for Norwich and New London. Plan recommends establishing water service districts.
New London	The City provides all public water service within city boundaries and provides water service to the Town of Waterford.
North Stonington	Nearly all of North Stonington is served by private wells. The Town of Westerly and the Southeastern Connecticut Water Authority provide limited service and possess the capacity to expand along the Route 2 corridor. The mobile home park and KOA Campground both operate CWS wells. The Town was declared an ESA provider in 2002.
Norwich	NPU serves the City. Urban areas are well served, with gaps in service in the rural areas.
Plainfield	Public water provides service to approximately 40 percent of the town.

Table 6-3
Water Supply Comments Addressed in Municipal Plans of Conservation and Development

Town	Water Supply Comment
Pomfret	No discussion of public water supply.
Preston	NPU, Preston Plains Water Company, Lincoln Park, and Strawberry Park all provide water to various parts of Preston. In addition, various non-community wells are used in Preston.
Putnam	Water and sewer service area corresponds to Special Services District (roughly downtown) and is provided by the Putnam WPCA.
Salem	Policy of municipal sewer avoidance.
Scotland	Plan update is ongoing and will consider the need for protection of existing and potential public surface and ground drinking water supplies. Town expected to remain rural.
Sprague	The Sprague Water and Sewer Authority provides the public water supply for the central part of Baltic village, supplying approximately 40% of the town's population.
Sterling	Town water system provides water supply to approximately 300 people.
Stonington (Borough)	The Aquarion Water Company serves Stonington Borough.
Stonington (Town)	The Aquarion Water Company serves the greater Mystic area. System capacity is expected to be adequate for the next 10 years or more. An interconnection is available to the Groton system, if needed. The CWC serves Masons Island. The Westerly Water Department (WWD) serves the greater Pawcatuck area. Conservation efforts have paid off in the form of flat to reduced water usage over the past 15 years. Therefore, the capacity of these systems is believed to be adequate. Over 6,000 residential and commercial customers served.
Thompson	States that water resources are vital to the health and well-being of all living things.
Union	The Town does not foresee the need for public water or sewer.
Voluntown	No areas with sewer. Groundwater wells are the source of water supply, with the vast majority of these being individual on-site wells.
Waterford	Multi-family development has occurred in areas near Route 1 that are served by public water and public sewer. Both water and sewer locations are located along major arterial streets (85, 156, 213, others) and individual neighborhoods branching off those arterials.
Windham	Water and sewer services in Windham are concentrated in the western part of town, in and around Willimantic. Most streets in the west side of town have both water and sewer service. Water service extends southeast and southwest out of this concentrated utility service area. A few individual streets and cul-de-sacs have sewer service only.
Woodstock	Sewer – Woodstock's WPCA follows a policy of "sewer avoidance," and seeks to avoid the expansion of any public sewers wherever possible. The existing sewer line originates from the South Woodstock Industrial zone and empties into Putnam sewage treatment plant. Water – The stratified drift (sand and gravel) aquifer located in the eastern and southeastern portions of Woodstock provides a majority of the Putnam population with water via the public water supply or private wells. Most of Woodstock is in either the Putnam or Willimantic drinking water watersheds.

Many municipalities report that their water and sewer utilities are adequate for the next 10 years. In rural areas especially, many municipalities are entirely reliant on on-site wells and septic systems and pursue a policy of avoiding municipal utilities – both because the demand is not enough to justify the expense and as a way to control future growth.

A survey of municipalities in the Eastern PWSMA was conducted by the NECCOG and the SCCOG. Representatives from five municipalities (the Borough of Stonington, Town of Chaplin, Town of Franklin,

Town of Ledyard, and the Town of Thompson) responded to the survey. Results are presented in Table 6-4 where "yes" answers were received.

TABLE 6-4
Municipal Survey Responses

Question	Responses
Is the creation of a public water system desired in any village centers (or other areas where there is a concentration of residential or commercial uses) due to high development density and challenging lot sizes, perhaps coupled with a desire for nominal growth?	Chaplin: Respondent noted the desire of the town to have a public water system developed along the Route 6 corridor through Chaplin. This would spur economic development and help make the town more financially sustainable. Franklin: Respondent indicated that a public water system is desired for the Birch Heights Subdivision. Respondent further noted that the Town is in the process of designing a continuation of the NPU system up Route 32 in the commercial area. Ledyard: Respondent indicated that expansion of public water service is desired in the Ledyard Center Village District on a new road to be named Fairway Drive. This area is located near the ESA Boundary between SCWA and the Town of Ledyard, and an agreement would need to be reached between the two parties to allow for orderly and efficient development of infrastructure. Thompson: Respondent noted the desire of the Town to see expansion of the CWC - Thompson system to the Industrial Park on Reardon Road.
Is there a desire to create a new public water system or expand an existing system in your municipality to address water quality concerns?	Franklin: Respondent indicated that the Town Municipal Complex, Tyler Drive, and the vicinity of Route 207 and Route 32 in the northern section of town have contaminated wells, and that public water service would alleviate the issue. Thompson: Respondent noted that there are areas in the vicinity of Thompson Hill with substandard and/or failing septic systems, and there are concerns that failures could impact water quality in nearby private wells. Public water supply may alleviate this concern.
Do you know of any examples of water systems in need of assistance or experiencing problems?	Ledyard: Respondent indicated that there have been several historical failures of small water systems in Ledyard that resulted in Ledyard WPCA taking over the systems. It would be helpful for this process to document the present status of smaller systems in town in order to plan for potential additional consolidations in the future.
Where is the movement of water needed from areas of surplus to areas of need?	Franklin: Respondent noted that movement of water from Norwich to additional parts of Franklin is needed.
Do you know of any public water systems within your municipality that are experiencing problems, are in need of assistance, or have unmet needs?	Thompson: Respondent noted that the CWC – Thompson system is 100 years old and that infrastructure upgrades are needed. He noted that CWC is working on this issue.

TABLE 6-4
Municipal Survey Responses

Question	Responses
Are there areas in your municipality where additional water supply is needed (for example, where streamflow regulations have reduced safe yields)?	None to date.
Have you identified areas where the movement of water is needed from an area of surplus to an area of need?	None to date.
Do you know of any examples in your municipality where it may be prudent to eliminate small systems where nearby water system expansion has occurred?	Ledyard: Respondent noted that there are several small systems along Route 12 and Route 117 adjacent to the Ledyard WPCA that could benefit.
Is there a desire to reduce the number of small water systems within your municipality?	Franklin: Respondent indicated yes and noted that Town buildings and the park continue to have water issues. Ledyard: Respondent noted that the WPCA is interested in taking over and providing water to smaller systems when they fail. Stonington (Borough): Respondent answered yes.
Can you propose any new interconnections that could address any of the challenges listed above?	Chaplin: Respondent suggested that an interconnection with Windham Water Works from the Chaplin / Windham town boundary has the potential to serve the area. Franklin: Respondent suggested that an interconnection from Windham to Norwich along Route 32 could address many of its challenges.
Has needed water system expansion within your municipality been deferred due to lack of funding?	Franklin: Respondent noted yes. Ledyard: Respondent stated yes, lack of funding has delayed expansion in the Village Center district. Thompson: Respondent noted that the Town does not the funds to cover the expansion of water service to the Industrial Park.
Please explain any other issues related to public water supply that you think the WUCC should consider during the water supply planning process.	Thompson: Respondent suggested identification of funding sources for infrastructure expansion and upgrades, and a discussion of asset management would be helpful.

Note: Survey responses as of November 1, 2016.

6.3 Land Use Planning and Coordination for Source Protection

With respect to land use planning and coordination for water supply, source protection is a major issue of concern. Individual WSPs address this topic at various levels of detail. Most community plans, such as zoning regulations and POCDs, also include pertinent information that directs allowable and anticipated uses in watershed areas as well as radially from public supply groundwater wells.

Smaller, nonmunicipally owned CWSs tend to have less opportunity for inclusion in broader planning objectives. Protection of these smaller systems often depends entirely on ownership of the land surrounding the source and state regulations that have established minimum allowable distances between a point source of pollution and a CWS water supply. Similarly, Non-Community water systems often rely on land ownership and setback distances.

6.3.1 Community Water System Source Protection Efforts

The following discussion focuses on the efforts of the larger CWSs serving greater than 1,000 people to provide source protection as well as to coordinate with local planning efforts. Various methods of source protection have been utilized by these systems and the associated municipalities, including zoning overlays of aquifer and public water supply watershed areas, purchase of watershed lands, and encouragement of easements from development. Source protection efforts are described below for each CWS serving greater than 1,000 people.

Aquarion Water Company – Mystic System

Aquarion actively protects its surface and groundwater supplies through a comprehensive source protection program administered by Aquarion's Watershed and Environmental Management (WEM) Department. Elements of the WEM source protection plan include regular watershed sanitary inspections, regular monitoring of source area activities and conditions, review of proposed land use and development changes with local regulatory agencies, emergency spill response procedures, and coordination with state and local authorities for remediation activities. Aquarion also performs regular patrol and maintenance of Aquarion watershed properties through full-time and part-time security patrol officers. Aquarion's WEM Department monitors water quality continually and field technicians often support source protection initiatives.

Approximately 6% of Aquarion's reservoir watershed areas are either Class I lands owned by the company or have been preserved as open space. The municipalities have regulatory and enforcement authority in aquifer protection areas, and Aquarion coordinates with local commissions and agencies to track and respond to potential pollution sources. Aquarion is also a partner of the Connecticut Source Water Collaborative as described in Section 7.0.

Colchester Water & Sewer Commission

Colchester Water & Sewer Commission owns the majority of the sanitary wellhead radius for its active wellfields. Level A mapping was completed for these two wellfields and the Town of Colchester has adopted an aquifer protection overlay zone to protect and preserve groundwater. Other elements of source protection include a public education program and a spill response program. Routine inspection of the watershed in which the wells are located is conducted to identify potential sources of contamination.

Connecticut Water Company

The CWC conducts an "aggressive, multi-faceted" source protection program that includes monitoring proposed land use and development changes, regular watershed inspections with reporting and emergency spill response procedures, and performing Level A Aquifer Protection Area mapping as part of the Aquifer Protection Area Program. The CWC also works to obtain sanitary easements and/or deed restrictions for source water areas. The CWC does not take a lead role in initiating development of municipal aquifer protection regulations but coordinates with local authorities regarding proposed land use. The CWC also consults with DEEP and DPH for issues with contaminants as necessary.

East Lyme Water & Sewer

The Town of East Lyme currently owns or has established easements within the sanitary radii for nearly all of its sources. Level A mapping has been completed for its wellfields. The Town of East Lyme has adopted aquifer protection regulations establishing the boundaries of primary aquifer protection districts for the major aquifers in town as well as secondary aquifer protection districts for other aquifers. The aquifer protection overlay zones prohibit land use activities that would jeopardize public drinking water supply. The Town of East Lyme maintains a list of potential open space properties not owned by the town that could be purchased in the future for additional protection of aquifer lands. The town is also partially dependent on the source protection efforts of the New London Department of Utilities as water stored in New London's reservoir is utilized during the summer.

Groton Long Point Association

As a consecutive system, the Groton Long Point Association does not own or operate any watershed or aquifer. All source water protection is the responsibility of Groton Utilities.

Groton Utilities

Land-use zoning and ownership of land are the prime mechanisms of source protection for Groton Utilities. Groton Utilities has implemented a Watershed Protection Plan that includes surveillance, water analysis, and participation with local authorities in monitoring proposed land use and development. The Town of Groton has established a Water Resource Protection overlay district zone restricting development within the watershed. Other elements of source protection include regular watershed inspections and patrols, posting and fencing, monitoring septic systems, education, and emergency spill response procedures. Land within the sanitary wellhead radius for its three groundwater supplies either is owned by the City of Groton or has designated easements from development.

Jewett City Water Company

The Jewett City Water Company owns land in the Towns of Griswold and Lisbon. Level A mapping was approved by DEEP for its wellfield. The majority of watershed land is forested and under ownership of the CWS. The watershed is inspected regularly as part of the inspection program.

Ledyard WPCA

Ledyard WPCA primarily relies upon or assists Groton Utilities with source water protection although it also conducts source water protection for its legacy supplies. The Whitford Brook watershed is zoned for low-density use. Level A mapping was completed for all production wells in the town. Designated aquifer protection zones have been proposed for the wellfields and a portion of the City of Groton watershed located within the town boundary. These include three aquifer protection overlay zones for areas where public water supply wells exist that serve greater than 1,000 consumers. Development and land use change within the overlay areas are subject to review. Additionally, the Town of Ledyard commissioned the development of the *Ledyard Sourcewater Protection Plan* in 2008.

Mashantucket Pequot Tribal Nation

The MPTN maintains ownership of the entire sanitary radii for its groundwater supplies. As a sovereign nation, the MPTN is not bound by regulations to complete the delineation of Level A aquifer protection areas for its two wellfields. However, Level A mapping has been conducted for one of the wellfields. The MPTN wellfields have parcels intersecting aquifer protection overlay zones in Ledyard and North Stonington. The MPTN wellfield parcel land in Preston is mapped to Level B standards and may be subject to aquifer protection regulations when passed. This land is within the special Resort Commercial zone.

Mohegan Tribal Utility Authority

As a consecutive system, the MTUA does not own or operate any watershed or aquifer. All source water protection is the responsibility of NPU and Groton Utilities.

Montville Water Pollution Control Authority

As a consecutive system, Montville WPCA does not own or operate any watershed or aquifer. All source water protection is the responsibility of Groton Utilities.

New London Department of Utilities

Watershed land not owned by the department is either undeveloped or lightly developed. Elements of source protection include fencing to prevent unauthorized access to watershed property and regular watershed surveys. The department keeps in contact with the local Planning and Zoning Boards in Waterford, Montville, and Salem to monitor proposed development activities.

Noank Fire District

As a consecutive system, Noank Fire District does not own or operate any watershed or aquifer. All source water protection is the responsibility of Groton Utilities.

Norwich Public Utilities

Watershed land associated with Norwich supply sources is located within Colchester, Lebanon, Salem, and Montville. Norwich owns slightly less than one-quarter of the contributing watershed for its active reservoirs and all of the sanitary radii for its groundwater supply. As an emergency source, the well has not been mapped to Level A standards.

According to NPU, pollution prevention is the best possible water supply protection strategy. Norwich has taken numerous proactive steps to protect its drinking water supply, including regular watershed sanitary surveys, regular source inspections, disallowing active and passive recreation at either reservoir, posting "no trespassing" signs every 50 feet along the reservoir property perimeters, and owning all land along its reservoir perimeters. NPU staff routinely review subdivision plans in the Towns of Colchester, Montville, and Salem with respect to environmental concerns in the supply watershed areas. The Towns of Colchester and Montville have open space zoning regulations in place that restrict development detrimental to both reservoirs. Additionally, NPU maintains ongoing coordination with Norwich, Colchester, and Montville regarding any activities that could potentially affect public water supply. Other elements of source protection include biyearly hazardous waste collection days hosted in Norwich, Montville, and Colchester as well as a spill response program.

Putnam Water Pollution Control Authority

Land associated with the surface water diversion is owned by the Town of Woodstock and State of Connecticut. Source protection measures by Putnam WPCA for its surface water supply include regular inspection of the watershed for potential unregulated spills and review of land uses and developments that may impact water quality. Additionally, regular watershed surveys are conducted by Putnam WPCA.

The wellfield owned by Putnam WPCA has been mapped to Level A standards, and Aquifer Protection Regulations have been developed by the Town of Putnam to restrict land uses and activities detrimental to the wellfield's aquifer. A Source Water Protection Plan has been implemented by the Town of Putnam for its active water supply sources.

Southeastern Connecticut Water Authority

In June 1997, in conjunction with the SCCOG, SCWA completed a source protection plan. In terms of source protection, the SCWA owns or controls the entire sanitary radii for all production wells. SCWA maintains ownership surrounding its supply sources and performs routine investigations of surrounding lands to determine potential sources of contamination. SCWA also coordinates with local officials to monitor proposed land use and development changes.

Overall, the plans of development for the four communities in which SCWA operate are considered by SCWA to suitably address aquifer protection. Zoning regulations for the towns have varying degrees of source protection. Stonington and North Stonington have adequate source protection through separate aquifer protection regulations. Ledyard has been working to coordinate its municipal plan with its zoning codes to reflect its commitment to source protection. Montville does not currently utilize stratified drift aquifers substantial enough in service population to warrant separate aquifer protection regulations.

Recommendations offered by the SCWA regarding subdivision regulations in the four towns include a provision for forwarding a copy of proposed development within Level B or A areas to all water utilities operating in the four towns as well as a provision to make sure that proposed development is consistent with best management practices detailed in "Best Management Practices for the Protection of Ground Water" by DEEP.

Sprague Water & Sewer Commission

The Town of Sprague owns or controls all of the sanitary radii for its groundwater sources. The Town of Sprague also owns 69% of the contributing watershed land for its reservoir. Additional development of the watershed land that is not town owned is unlikely because it is mainly wetlands. Zoning, land use, and development potential are presently considered adequate by the utility to protect source water quality.

Waterford Utilities Commission

As a consecutive system, Waterford does not own or operate any watershed or aquifer. All source water protection is the responsibility of the New London Department of Utilities. However, the town has established procedures for purchasing land to be held as the location of potential future groundwater sources.

Westerly Water Department

Westerly has a unique system in that it is under the jurisdiction of two states, Rhode Island and Connecticut. There is one inactive well located in Connecticut, and the Westerly Water Department adheres to the requirements set forth by the Connecticut Aquifer Protection Program.

Wellhead protection areas are maintained by the Town of Westerly, and a variety of town regulatory measures for source protection have been identified. These include an Aquifer Protection Overlay District, a Waste Water Management Program, and subdivision regulations.

Windham Water Works

The Willimantic Reservoir watershed is the largest public water supply watershed in the State of Connecticut, spanning 11 Connecticut municipalities and into the Town of Sturbridge, Massachusetts. Windham Water Works owns less than 1% of the watershed area. However, Windham Water Works has taken many steps to protect its drinking water supply. A key element of source water protection is its watershed inspection program. Regular inspections are made throughout the watershed, and all communities within its watershed are notified. Windham Water Works also focuses on outreach related to septic system maintenance and general source protection.

The municipalities within the watershed have a variety of means to control development and protect water quality relative to zoning, regulated areas and set-backs, and development policies. The state DOT has also installed signs marking watershed boundaries.

6.3.2 Source Water Assessment Program

The state administers a variety of programs devoted to drinking water protection via the Public Health Code and the CGS. In addition to overseeing the WUCC process, the DPH, as well as the DEEP, is involved in the administration of a variety of source water quality protection programs.

Specifically, the DPH oversees water supply system compliance for CWSs and Non-Community systems and administers permitting, enforcement, and water supply planning programs. These areas include regulation of water company lands, involvement in local planning and zoning activities, water supply system site inspections, treatment plant and distribution system operator training and certifications, and administration of programs for annual watershed sanitary surveys and cross connection prevention.

In response to the 1996 Amendments to the Safe Drinking Water Act, the DPH initiated the Source Water Assessment Program (SWAP) in 1997. Surface water and wellhead protection programs previously developed by the DPH and DEEP serve as the foundation of the SWAP. In accordance with this program and EPA guidance, a Source Water Assessment must be completed for each public water supply in the state.

A Source Water Assessment must include three basic components varying in level of precision and detail with the size or type of water system. Delineation of a Protection Area surrounding the public water supply contributing water to the well(s) or reservoir must be completed; a Potential Pollution Source Inventory must be completed identifying potential sources of contamination or activities within and around the delineated protection area that pose a threat to the public water supply; and finally, the Source Water Assessment must include a Susceptibility Determination for provision of a clear understanding of the susceptibility of the sources to contamination.

6.3.3 Regional Source Water Protection Efforts

Despite having some of the oldest source protection laws on the books, Connecticut has strived to make advances in source protection. The programs described above have accomplished significant source protection, but DPH has recognized the need for additional tools.

The phrase "Drinking Water Quality Management Plan" (DWQMP) was first developed by the DPH in 2005. The DWQMP concept is similar to traditional source protection, but it emphasizes and focuses on the public health aspects of maintaining high quality potable water supplies through the first barrier of the multibarrier approach. The DWQMP approach is meant to highlight and spotlight drinking water quality and public health protection. The guidelines and recommendations for the DWQMP as set by the DPH were first articulated in a presentation entitled "*Drinking Water Quality Management Planning*," given in May 2006. Numerous elements of a DWQMP are possible. In general, the DWQMP is a *locally based, comprehensive planning mechanism* to define and implement quality management mechanisms for public source water.

A regional DWQMP was completed in southeastern Connecticut in 2009. This DWQMP was developed to become a model for other collaborative DWQMPs to be developed in Connecticut. However, to date, few have been developed, and those that have been developed are site specific rather than communitywide.

6.3.4 Connecticut Source Water Collaborative

Source protection has gained traction again recently with establishment of the "Connecticut Source Water Collaborative." This is a group of organizations, including water utilities and government regulatory bodies, who are working together toward the protection of drinking water sources. A charter formalizing the group was signed on May 4, 2016. The mission, as laid out in the charter, is to "facilitate collaborative approaches and creative solutions for drinking water protection through identification and implementation of complementary objectives, education, outreach, stewardship, and leveraging of resources." DPH anticipates that the collaborative will be helpful in promoting source water protection in the coming years.

6.3.5 Aquifer Protection Area Program

Under the administration of Connecticut DEEP, Connecticut's Aquifer Protection Area (APA) Program protects major public water supply wells in sand and gravel aquifers to ensure a plentiful supply of public drinking water for present and future generations. APAs (sometimes referred to as "wellhead protection areas") are being designated around the state's 127 active wellfields in 80 municipalities with sand and gravel aquifers that serve more than 1,000 people. Water utilities are required to map the critical recharge areas of each aquifer using methods specified in the state APA regulations. Land use regulations will be established in those areas to minimize the potential for contamination of the wellfield. The regulations restrict development of certain new land use activities that use, store, handle, or dispose of hazardous materials and require existing regulated land uses to register and follow best management practices. Municipalities are responsible for appointing an aquifer protection agency, inventorying land uses within the APA, designating the APA boundary in land use regulations, and adopting and implementing local land use regulations. Permits must be issued for new regulated activities. As of February 5, 2015, the program was 89% complete.

6.3.6 Other Organizations

Other organizations can play a pivotal role in source protection in areas such as educational outreach, development review, stream bank restoration projects, groundwater pollution abatement, and land acquisition, among others. For example, there are numerous land trusts in Eastern Connecticut who seek to permanently protect land (such as in source water areas), and groups such as the Friends of the Shetucket River Valley promote conservation and educational initiatives that promote sound watershed and riverine quality.

6.4 Coordination among Community Water Systems

Formal organizations exist within the region that provide opportunity for administrative and technical staff of CWSs to interact with one another on issues of water supply. These include the American Water Works Association (including the Connecticut Chapter), Connecticut Water Works Association, the Atlantic States Rural Water Association, and the regional planning organizations such as NECCOG and SECCOG. In particular, the SECCOG has coordinated an ongoing Regional Water Committee for its member communities since the completion of the previous southeastern WUCC process.

In addition, many informal and unwritten agreements currently exist between CWSs and municipalities in the region for exchange of equipment and services. The Connecticut section of the American Water Works Association maintains a database of water systems that have agreed to accept phone calls for

providing technical assistance. The Connecticut Water/Wastewater Agency Response Network (CtWARN) also supports and promotes statewide emergency preparedness, disaster response, and mutual assistance for public and private water and wastewater utilities. Water utilities in the Eastern PWSMA who are members of CtWARN include the Aquarion Water Company, Colchester Water & Sewer Commission, CWC, Groton Utilities, Jewett City Water Company, MPTN, MTUA, NPU, and SCWA.

7.0 ISSUES, NEEDS, AND DEFICIENCIES IN THE REGION

Various issues, needs, and deficiencies have been identified for the Eastern PWSMA as determined throughout the planning process via data research, correspondence, and discussions with WUCC members, agency staff, and interested parties. The following discussion summarizes the key issues that are currently facing the region. These will be considered further in the ESA delineation and Integrated Report.

7.1 Sources of Supply

Existing Supply Sources – Some groundwater sources require maintenance to maintain the hydraulic capacity and water quality while other sources require eventual replacement. Finding locations for replacement wells is challenging and expensive due to the cost of land, encroaching developments, permitting, and other factors.

Future Supply Sources – Several of the CWSs in the region have identified the need for additional water supply sources to meet current and future projected demands due to continued development within their existing service areas. Examples include NPU and Montville WPCA. However, the process for bringing new sources online is challenging, and the regulatory process is heavily unfavorable to the creation of new surface water sources. It was suggested that this process identify potential reservoir locations and associated watersheds for consideration.

Impacts of Climate Change – The resiliency of water systems to climate change and natural hazards is a significant concern, particularly given the extensive power outages that occurred throughout the state during Tropical Storm Irene, Winter Storm Alfred, and Hurricane Sandy. Many smaller systems do not have standby power facilities. A DPH study will soon be underway headed by the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to develop a Drinking Water Vulnerability Assessment and Resiliency Plan for Connecticut to consider the impacts of flooding from extreme weather, drought, and other impacts of climate change on public water systems. Future planning will be necessary to prepare for and respond to climate change. Interconnections may become more important as part of these efforts.

Impacts of Current Streamflow Regulations – Several of the CWSs in the region may experience impactful reductions in reservoir safe yields upon full implementation of the Streamflow Regulations by 2026 or 2027. Examples include NPU and New London Department of Utilities. These systems rely on a few surface water supplies that are not exempt from the Streamflow Regulations. Future water supply sources may be needed to offset reductions in safe yield. Therefore, implementation of the streamflow regulations is believed to be a primary driver for determining the need for future interconnections and new source development across the state. Utilities may also choose to develop and enter into flow management plans with multiple parties as a method to comply with the Streamflow Regulations.

Impact of Existing and Future Anticipated Regulations – Regulations that affect public water systems will remain an issue for this region as well as for water systems statewide. The total coliform rule (TCR) is one such example. The TCR will lead to proliferation of new and improved treatment systems, and it

may lead to abandonment of some water supply wells. If the Streamflow Regulations are modified in the future to include progressive cutbacks of groundwater withdrawals, the adverse impact on available water will be significant in the region and statewide. These and other as-of-yet unknown future regulations can be costly to implement and maintain and significantly affect the logistics of operating a public water system.

Source Water Protection – Members of environmental groups and the general public have urged the WUCC to protect Connecticut's environment and maintain pure drinking water supplies. Protection of the environment and protection of water supply sources in many ways are mutually beneficial. Source protection and environmental conservation, for instance, are harmonious throughout many drinking water supply watersheds and groundwater aquifers. Wellhead and watershed protection for both existing and future supply sources has made significant progress in the past 15 to 20 years with completion of the SWAP, completion of the majority of the Level A mapping, and full implementation of the APA regulations. However, continued land development and the need to address issues that cross-jurisdictional boundaries are of particular interest regarding watershed lands. For example, Windham Water Works has a significant reservoir watershed area spanning two PWSMAs and extending through eight Connecticut communities (and more in Massachusetts); the Putnam WPCA, NPU, and the New London Department of Utilities among others also have reservoir watersheds spanning multiple communities. While DPH has promoted a program to assess systems that cross municipal divides (known as the Drinking Water Quality Management Planning process) and address protection of drinking water supplies on a regional scale, there has been little traction for using this unique collaborative approach elsewhere in the state. There are also concerns regarding the limited ability of public water systems to prevent activities on private property that could lead to aquifer contamination.

Raw Well Water Quality – It is recognized that the raw well water utilized for public drinking water in the region tends to be variable with respect to quality and quantity. Elevated concentrations of arsenic, radioactive elements, and/or iron and manganese are prevalent in public water system well supplies, and treatment can be costly. This may present a disproportionate burden on small CWSs and Non-Community water systems, and it may necessitate extending public water systems into areas served by private wells or creation of new public water systems as noted below. Examples include Montville, Pomfret, and Sprague, which have small systems that have dealt with recent water quality challenges related to arsenic, uranium, and other constituents.

Environmental Concerns Associated with Water Withdrawals – Members of environmental groups and the general public have voiced concern over the potential for environmental impact of water withdrawals from reservoirs and groundwater aquifers. For new withdrawals, and for those previously permitted under the Water Diversion Act administered by the DEEP, potential environmental impacts are rigorously reviewed. Previously *registered* water diversions, including those for public drinking water supply, did not undergo environmental review. These withdrawals are grandfathered. The Coordinated Water System Plan must consider the potential impacts of the plan on other uses of water resources, including water quality, flood management, recreation, hydropower, and aquatic habitat issues. These will be considered in the Integrated Report. The Coordinated Water System Plan will not provide detailed, site-specific ecologic, hydrologic, or hydraulic analysis. Rather, potential impacts will be identified on a planning level, using existing mapping, data, and information. Such information will be considered in light of identified future supply sources and of future plans of how ESA providers plan to provide water supply to currently unserved areas.

7.2 Planning

Coordination of Water Utility Planning – In the years since the Bioterrorism Act of 2002, and throughout the revision and updates to Emergency Contingency Plans, many larger water utilities have made significant advancements in emergency planning with other utilities through memorializing mutual aid agreements and formalizing other forms of cooperation. Additional coordination between CWSs with respect to various aspects of water supply, such as shared use of equipment and technical staff, is also desirable from a financial perspective. Improved coordination has the potential to greatly benefit smaller systems that may not have the financial ability to purchase equipment, such as that required for spill response or emergency power. Finally, a key benefit of improved coordination among water utilities is the potential to establish a more organized and holistic approach to the exploration of future water supplies and interconnections such as those described below. The WUCC process is precisely aimed at such coordination efforts.

Coordination of Planning between Utilities and Communities – In some cases, state, regional, and local planners have limited understanding of the long-term planning goals of water utilities and vice versa. For example, although larger utilities account for local planning efforts as part of their WSPs, this information does not necessarily inform the local planner. Review of the Coordinated Water System Plan should be encouraged as part of local planning efforts along with increasing the lines of communication between larger utilities and local staff. In addition, planning between water utilities and communities is typically performed in a staggered manner with utilities reviewing current planning documents that may be several years old.

Disjointed Service Areas – Numerous communities are served by multiple public water systems (whether privately owned or municipal or regional) that are located proximal to one another but not interconnected, which can result in higher cost of operation, lack of efficiency, and lack of redundancy. In some cases, the cost for a customer to purchase water can be significantly more expensive in one system than the other system despite the customer's proximity.

Exclusive Service Areas – The northern half of the Eastern PWSMA has not undertaken the assignment of ESAs. A well-planned assignment of ESAs in this region will help address challenges that emerge in the future, including those described above regarding new and existing small systems as well as water quality challenges in some communities. Assignment of ESAs will be resolved as Part II of the Coordinated Water System Planning process. Encouragement of reasonable coordinated planning will be a goal of the Eastern WUCC moving forward.

Use of Current Data – The Coordinated Water System Planning process requires the use of current data, but many data sets are out of date. These include WSPs (discussed in Section 6.1), POCDs (discussed in Section 6.2), publically available data from state agencies, and population projections (discussed in Section 5.3). In some cases, very little data is available to state agencies: For example, the majority of public water systems (i.e., those without DEEP diversion permits or those required to provide a WSP) are required to record, but not report, usage data. While the Coordinated Water System Planning process will make use of the best available data, it is necessary for WUCC members, state agencies, COGs, municipalities, and interested parties to perform a detailed review and provide current data where necessary to inform the process.

7.3 Interconnections

Development of New Interconnections – New interconnections may be desired where not already present. This can help address water supply imbalances and increase redundancies that are desirable during water supply emergencies or droughts. For example, the three main systems owned by CWC along Route 12 (from southern Plainfield through Killingly) are not interconnected at this time, but interconnection may be desirable in the future. Another example is NPU and Windham Water Works, which have conceptually discussed an interconnection through Franklin. Some interconnections in Table 2-10 will require pumping stations, meter pits, and/or pressure reducing valves, which can greatly add to the project cost. The development of interconnections should include consideration of raw water interconnections among utilities that utilize surface water. This type of interconnection is currently nonexistent in the Eastern PWSMA, but such interconnections could be utilized to bolster surface water supplies during prolonged drought conditions.

Movement of Water through Interconnections – The movement of water from areas of surplus to areas of need is not always straightforward even where interconnections are already present. Potential barriers include water quality differences, pressure gradients, the challenges associated with diversion permitting, and/or lack of agreements for the movement of water. For example, numerous interconnections are in place to move water between the interconnected water utilities of the southern part of the region (East Lyme, New London, Montville, NPU, MTUA, Groton Utilities, Ledyard, and Aquarion Water Company's Mystic System). At the present time, some of these interconnections are operated for normal daily water supply, and some are used for emergency transfers of water. In the future, it may be desirable to modify these operating protocols to transfer water from areas of surplus to identified areas of need. In addition, concerns about the potential long-term environmental and economic development impacts of transfers of water into or out of a basin must also be considered. Emergency interconnections, which exist solely to address short-term events, are an opportunity to provide critical supply redundancy with minimal long-term impact.

7.4 Small Water Systems

Challenges of Operating Small Systems – Many municipalities and privately owned public water utilities, such as The CWC, SCWA, Ledyard WPCA, and others, own and operate numerous small systems. Operational requirements such as regulatory permitting, technical assessment, system maintenance, infrastructure replacement, and water supply need require a disproportionate amount of time and money compared to the operation of a larger system. In particular, the lack of proper planning and/or asset management planning for many small CWSs (particularly a lack of knowledge regarding the full cost of providing a safe and reliable supply of drinking water) has resulted in systems with limited financial capacity to address public health code issues.

New Public Water Systems – In general, the need for new public water systems in the region are driven by the following conditions:

- Creating public water systems in some village centers may be necessary due to high densities and challenging lot sizes coupled with a desire for nominal growth. An example is Ashford, where the lack of utilities is considered to be limiting economic development.

- Creating public water systems in some village centers or neighborhoods may be necessary due to water quality concerns.

- Developers will continue to approach municipalities about new projects ranging from commercial establishments to various types of residential developments. Many of these will necessitate the development of new public water systems (whether CWS or Non-Community).

Because vast portions of the Eastern PWSMA are rural, the above challenges may not be possible to address by extension of existing public water systems. However, development of new public water systems must not be taken lightly, especially given the many small systems that are already located in the region and the fact that the creation of new systems is costly.

Viability of Small Water Systems – The large number of small public water systems in the region is not viewed as an issue per se. However, the viability of these systems is an issue of concern, particularly in regions where the density of small systems is noticeable, such as in Canterbury. Additionally, the operation of small water systems immediately adjacent to larger systems can result in a disparity of the cost of water among populations in close proximity, especially when small systems fail to fully fund their water system operations. The cost of interconnecting small systems can be prohibitive or, at the very least, a disincentive. More fully understanding their technical, managerial, and financial capacity to provide water supply is of interest. Several sets of challenges are facing the region:

- Eliminating the proliferation of small systems may be possible in communities where larger public water system expansions have occurred, and therefore, these larger systems are now adjacent to small systems. Examples can be found in Montville along Route 32 and Ledyard near Route 117. Barriers to connecting small systems to larger systems (thus eliminating the small separate systems) include lack of funding and/or desire to make the investment, lack of interest from the small system, potential changes in water quality, and potential changes in pressure. For the most part, these types of barriers should be feasible to transcend provided funding is available.

- Reducing the number of small systems may be possible in some communities where options are limited. For example, some of the small Non-Community systems in North Stonington were connected to the SCWA system extended nearby in the last decade.

- Potential acquisitions of water systems may be of interest to system owners that are not in the business of providing water. For example, numerous small water systems are in operation that serve apartment complexes and mobile home parks. Some private boarding schools also exist in the region with education as their chief objective, and they may not be interested in water system management.

- Potential acquisitions of water systems may be of interest to owners that are currently experiencing significant technical, managerial, and capacity challenges. These systems, particularly the numerous Non-Community systems, could benefit from different ownership.

7.5 Water Usage

High Water Usage by Agricultural, Industrial, and Power Generation Facilities – Some agricultural, industrial, and power generation facilities require substantial water commitments from nearby public water systems for active daily supply as well as potential peaking supply, and there is often a large discrepancy between these figures. Some of these facilities do not require potable water and may be better served by nonpotable water.

Declining Revenue and Increasing Costs – Some water systems are experiencing a trend of decreasing average-day demands. With continued conservation and the decline of industry, and the housing market decline of the Great Recession, water systems have been challenged by declining revenue. Because of the high fixed-cost requirements of public water systems, this has, in some cases, negatively impacted levels of service and made paying for infrastructure more challenging. Examples can be found throughout the region. Creative solutions, such as the infrastructure replacement and revenue adjustment mechanisms authorized under Public Acts 07-139 and 13-78, respectively, are needed to recapture lost revenue and/or pay for maintenance and improvements.

Increasing Ratio of Peak-Day Demands to Average-Day Demands – Some water systems are experiencing a trend of decreasing average-day demands along with an increase in peak-day demands. This negatively impacts the ability to manage sources and treatment facilities in some systems and points to a need for conservation during peak-day conditions. This is often the case during the summer months coincident with irrigation and water-intensive recreational activities. Although reservoir systems are typically better able to handle increased peak-day demands than groundwater systems from a supply perspective (provided adequate treatment capacity exists), increased peak-day usage by reservoir systems is of concern to DPH as overuse of surface water sources can result in taste and odor complaints, elevated levels of cyanotoxins, and other water quality concerns.

Infrastructure – Water infrastructure is aging, with the cost of replacement, the need for asset management, and mechanisms for funding being shared across small and large systems alike. Replacement cycles are getting longer and infrastructure is getting older and more vulnerable to failure.

Lack of Fire Protection – Many rural parts of the Eastern PWSMA are relying on ponds, dry wells, and cisterns coupled with tanker trucks for fire protection. These approaches will continue in most of the rural areas but may not be desired in specific areas that would benefit from increased protection afforded by a public water system with storage and adequate pressure. Additionally, some parts of the region are already served by public water systems with fire protection through hydrants, but pressures may be insufficient. The Borough of Stonington is an example of a community where improved fire protection (in terms of water volume and pressure) has been cited as something desired by community officials.

Lack of Funding – A continued lack of straightforward access to capital improvement funding has delayed many desired projects in the region. The Drinking Water State Revolving Fund 2011 Needs Survey identified $3.5 billion in infrastructure replacement needs over the next 20 years, and the 2015 survey results to be published in spring 2017 are expected to be even higher. Examples include the continuation of regional interconnections in southeastern Connecticut by connecting Ledyard and NPU through southwestern Preston.

Water Conservation – Water conservation is an important element of sound public water system operation. In some cases, significant conservation measures have already been enacted, and additional water conservation efforts by a utility may have a minimal return. While all of the larger utilities practice water conservation, many smaller systems limit conservation to end-user controls such as low-flow toilets, faucets, and showers. Additionally, many smaller systems have minimal meters, and the amount of lost or wasted water is unclear. Continuing education is necessary to inform users of conservation methods, and additional education is needed for the general public regarding the amount of water being saved today that may have been wasted in the past. Water conservation may also be an

issue with some systems where declining revenues are already negatively affecting revenue requirements.

Enactment of Voluntary and Mandatory Conservation Measures – The recent droughts in Connecticut have raised public awareness of voluntary and mandatory water conservation measures, which are enacted by many utilities to reduce demands during a drought. Typically, such reductions are requested on a percentage basis for each customer. One issue raised by the public as part of the recent widely reported and protested commercial bottling plant in Bloomfield was whether commercial/industrial users should be completely shut off prior to limiting water for residential customers. The WUCC will evaluate potential refinements to the methodology of how drought-related conservation measures are enacted in the customer base in the Integrated Report.

7.6 Final Thoughts

These and other issues that may arise during the Coordinated Water System planning process will be evaluated in the Integrated Report, including existing and future projected population, existing and alternative water supplies, source protection, water conservation, existing and potential interconnections, system ownership and management, satellite management/ownership issues, minimum design standards, financial considerations, potential impacts on other uses of water resources, and land acquisition for source water protection.

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APPENDED TABLE

Appended Table 1. Town-By-Town Summary of Public Water Systems and Potential Consolidations for the Eastern PWSMA

COG	Town	# of Community Systems	Community Systems		Non-Community Systems		Primary Service Provider(s)	Potential Consolidations by Large CWS	Potential NC Consolidations by Small CWS	Potential Non-Community Consolidations	Planned Interconnections Noted in PWSA (Table 2-10)	Other Potential Interconnections Between Systems within 1,000 feet Noted in PWSA (Table 2-11)	Potential Water Supply Actions Identified in POCDs (Table 6-3)	Potential Water Supply Actions from Municipal Survey Responses (Table 6-4)
			Large (>1000 People)	Small (<1000 People)	TNC	NTNC								
Northeastern	Ashford	8	0	8	16	2	None	None	Three TNCs are within 1,000 feet of the CWC - Ashford Park Division System (small C) in the southern part of town. The CWC - Pompey Hollow Division (small C) is located within 1,000 feet of the CTWC Ashford Park Division (small C) in the southern part of town. One TNC is located within 1,000 feet of the Birch Hills Condominiums (small C) system in the south-central part of town. Two TNCs are located within 1,000 feet of the Evangelical Christion Center Main system (small C) in the eastern part of town. The Mar-Lea Park Apartments (small C) and the Ashford Hills Apartments (small C) systems are within 1,000 feet of each other in the southern part of town.	None	None	None	None	Lack of utilities is identified as an issue hindering economic development.	None To Date
Northeastern	Brooklyn	3	1	2	11	4	CWC - Crystal System	The Gorman Road Apartments (small C) is within 1,000 feet of the CWC - Crystal System (large C) in the north central part of town. Eight TNCs and one NTNC within 1,000 feet of the CWC Crystal System in the central and eastern parts of town. One TNC within 1,000 feet of the CWC - Plainfield Division (large C) in the southeast corner of town.	None	Three NTNCs within 1,000 feet of each other in the northern part of town.	None	None	No plans to request extension of system in the next 10 years.	None To Date
Northeastern	Canterbury	3	0	3	10	5	None	None	Six TNCs within 1,000 feet of the Knollbrook Village Elderly Housing system (small C) in the center of town.	One TNC and one NTNC within 1,000 feet in the eastern side of town. Two TNCs within 1,000 feet in the northwest part of town. One TNC within 1,000 feet of a TNC in Plainfield in the southeast corner of town.	None	None	None	None To Date
Northeastern	Chaplin	1	0	1	10	3	None	None	Two TNCs within 1,000 feet of the Chaplin Woods Condominiums System (small C) in the southern part of town.	Three TNCs and one NTNC within 1,000 feet in the southwest corner of town. Three TNCs within 1,000 feet in the north central part of town.	None	None	Encouraging the development of public water systems in Natchaug Village and Sherman's Corner is listed as a strategy.	There is a desire for a public water system along the Route 6 corridor to spur economic development and help make the town more financially sustainable. It was suggested by the Town that an interconnection with Windham Water Works may be feasible.
Northeastern	Eastford	1	0	1	10	2	None	None	Two TNCs within 1,000 feet of the Evangelical Christian Center Main system (small C) in the western part of town.	Two TNCs within 1,000 feet in the south central part of town. Two TNCs within 1,000 feet in the northeast corner of town.	None	None	Public water and sewer systems are not anticipated.	None To Date
Northeastern	Hampton	0	0	0	2	2	None	None	None	None	None	None	None	None To Date
Northeastern	Killingly	6	1	5	12	5	CWC - Crystal System	Six TNCs and three NTNCs within 1,000 feet of the CWC - Crystal System (large C) in the western side of town. The Conrads Park system (small C) is adjacent to the CWC - Crystal System.	None	Two TNCSs within 1,000 feet of each other in southwest Killingly. Additionally, another TNC in Plainfield is within 1,000 feet.	CWC – Crystal Interconnection with CWC – Plainfield Division	None	None	None To Date
Northeastern	Plainfield	9	2	7	13	2	CWC - Plainfield Division, CWC - Gallup System	Moosup Garden Apartments (small C), Jumbo Apartments (small C), and seven TNCs within 1,000 feet of the CWC - Plainfield Division (large C) in the northern part of town. The Westview Terrace Mobile Home Park (small C) four TNCs, and one NTNC are within 1,000 feet of the CWC - Gallup System (large C) in the southern part of town.	Moosup Pond Terrace, LLC (small C) within 1,000 feet of Arnio Drive, LLC (small C) in the northeastern part of town.	One TNC within 1,000 feet of a TNC in Killingly, CT.	CWC – Crystal Interconnection with CWC – Plainfield Division CWC – Gallup Interconnection with CWC – Plainfield Division	None	None	None To Date
Northeastern	Pomfret	5	0	5	15	6	None	None	The Rectory School (small C) within 1,000 feet of the Pomfret School (small C) and five TNCs and one NTNC in the north central part of town.	None	None	None	None	None To Date
Northeastern	Putnam	2	1	1	4	3	Putnam Water Pollution control Authority	There are two TNCs and one NTNC within 1,000 feet of the Putnam Water Pollution Control Authority (large C).	None	One TNC and one NTNC within 1,000 feet in the northern part of town.	None	None	None	None To Date
Northeastern	Scotland	0	0	0	5	1	None	None	None	None	None	None	None	None To Date
Northeastern	Sterling	2	0	2	6	1	Town of Sterling	None	None	Two TNCs within 1,000 feet in the center of town.	None	None	None	None To Date
Northeastern	Thompson	7	2	5	16	5	CWC - Thompson Division	There is one TNC within 1,000 feet of the Putnam Water Pollution Control Authority (large C) in the southwest corner of town.	There are two TNCs within 1,000 feet of the Quinebaug Mobile Home Park (small C) in the north west corner of town. The Marianapolis Prep School- St. Alberts (small C) is within 1,000 feet of the Marianapolis Prep School- St. Johns (small C) in the south central part of town.	There are three TNCs within 1,000 feet in the south central part of town. There are two TNCs in the east central part of town. There are two TNCs within 1,000 feet in the southern part of town.	None	None	None	There is a desire for the CWC - Thompson system to expand to the industrial park on Reardon Road. The Town does not have the funding to install mains to this area. The Thompson Hill area may need public water supply to offset potential contamination of private wells by potentially failing septic systems.
Northeastern	Union	0	0	0	2	1	None	None	None	None	None	None	The Town does not foresee the need for public water or sewer.	None To Date
Northeastern	Voluntown	2	0	2	13	1	None	None	Seven TNCs and one NTNC within 1,000 feet of the Voluntown Housing Authority (small C) in the western part of town.	None	None	None	None	None To Date

Appended Table 1. Town-By-Town Summary of Public Water Systems and Potential Consolidations for the Eastern PWSMA

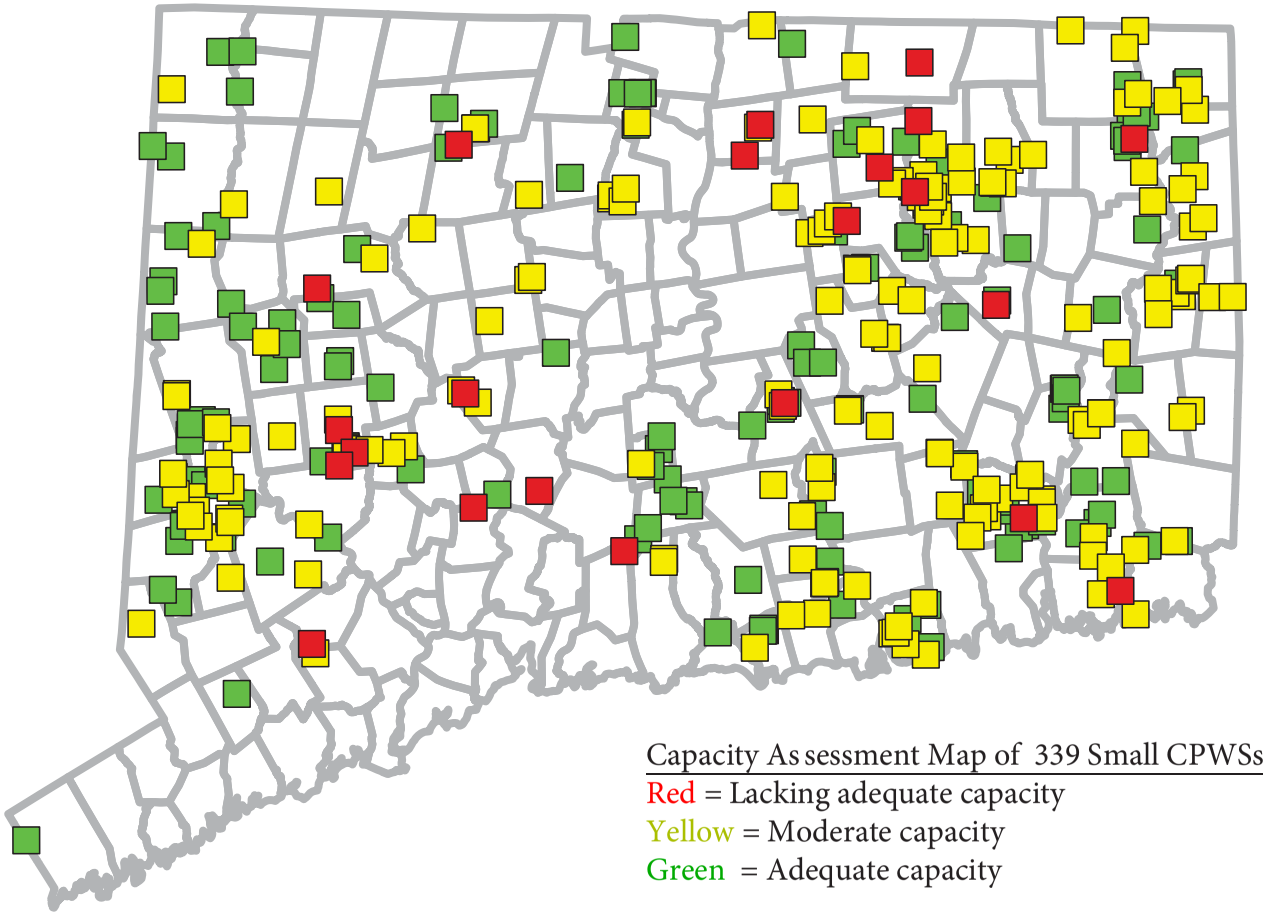
COG	Town	# of Community Systems	Community Systems		Non-Community Systems		Primary Service Provider(s)	Potential Consolidations by Large CWS	Potential NC Consolidations by Small CWS	Potential Non-Community Consolidations	Planned Interconnections Noted in PWSA (Table 2-10)	Other Potential Interconnections Between Systems within 1,000 feet Noted in PWSA (Table 2-11)	Potential Water Supply Actions Identified in POCDs (Table 6-3)	Potential Water Supply Actions from Municipal Survey Responses (Table 6-4)
			Large (>1000 People)	Small (<1000 People)	TNC	NTNC								
Northeastern	Woodstock	9	1	8	18	9	None	The Pinecrest Condominiums system (small C) and one TNC are within 1,000 feet of the Putnam Water Pollution Control Authority (large C) in the southeast corner of town.	There is an NTNC within 1,000 feet of the Solair Recreational League – Lower Ridge system (small C) in the northern part of town. There is an NTNC within 1,000 feet of the CWC - Cornfield Point Division (small C) in the south eastern part of town. There are two TNCs within 1,000 feet of the Brookwood Apartments system (small C) in the southeastern part of town. There are three NTNCs within 1,000 feet of the Hyde School System #2 (small C) in the southeastern part of town.	Three TNCs within 1,000 feet in the western part of town. Two TNCs within 1,000 feet in the western part of town.	None	None	None	None To Date
Southeastern	Bozrah	1	1	0	9	1	Norwich Public Utilities	None	None	Three TNCs are within 1,000 feet of each other, and an additional TNC is within 1,200 feet in the southeast corner of town. Two TNCs are within 1,000 feet in the south central part of town.	None	None	Cites survey results that residents would promote sewer/public water lines along Stockhouse Rd, Salem Turnpike, etc. Fitchville and Gilman areas of town have access to public water through Norwich. Salem Turnpike area has potential to access utilities from Norwich.	None To Date
Southeastern	Colchester	8	1	7	11	2	Colchester Sewer and Water Comission	One TNC within 1,000 feet of Colchester Water and Sewer Commission (large C)	The CWC - Westchester Hills Condos (small C), CWC - Westchester Village (small C), Knob Hill Condominiums (small C), and Knob Hill Condominiums Well #5 (small C) systems are within 1,000 feet of each other in the northwest part of town.	Four TNCs and one NTNC within 1,000 feet in the southwest part of town.	Colchester Water & Sewer Commission Interconnection with nearby CWC systems, East Hampton WPCA, and/or Norwich Public Utilities	None	Utility extensions are suggested as a strategy to attract business development.	None To Date
Southeastern	East Lyme	1	1	0	4	1	East Lyme Sewer and Water Comission	There are four TNCs within 1,000 feet of the East Lyme Water and Sewer Commission (large C) throughout town.	None	None	Potential Interconnection with Groton Utilities via existing piping owned by several systems	None	None	None To Date
Southeastern	Franklin	1	1	0	15	4	None	Six TNCs and one NTNC within approximately 1,000 feet of Norwich Public Utilities (large C) in the southeastern corner of town.	None	Four TNCs and one NTNC within approximately 1,000 feet of each other in the east central part of town.	None	None	None	A public water system is desired for the Birch Heights Subdivision. The Town Municipal Complex, Tyler Drive, and the vicinity of Route 207 and Route 32 have contaminated wells which would benefit from public water. Town buildings and the park continue to have water issues and these systems would benefit from consolidation. An interconnection from Windham to Norwich along Route 32 could address many of its challenges. The Town is in the process of designing an extension of the Norwich system up Route 32 in the commercial area.
Southeastern	Griswold	6	1	5	11	2	Jewett City Water Company	Connollys Trailer Park (small C) is within 1,000 feet of the Jewett City Water Company (large C).	One TNC within 1,000 feet of the Jewett City Water Co. S&W System (small C) in the center of town. One NTNC within 1,000 feet of the CWC Shoreline Region Bay Mountain System (small C).	Two TNCs within 1,000 feet in the west central part of town. Two TNCs within 1,000 feet in the north central part of town.	CWC – Country Mobile Estates System Interconnection with CWC – Gallup Water Service	None	None	None
Southeastern	Groton	6	4	2	6	5	Groton Uilities, Aquarion - Mystic System, Groton Long Point, Noank Fire District	There are two TNCs and one NTNC adjacent to Groton Utilities in the central and western portions of town. The Whipples Mobile Home Park (small C) system and Colonial Efficiency Apartments system (small C) are within 1,000 feet of the Aquarion - Mystic System (large C) in the eastern portion of town.	None	There are two TNCs within 1,000 feet in the northeast corner of town. There is a TNC and an NTNC within 1,000 feet in the eastern portion of town.	None	None	None	None To Date
Southeastern	Lebanon	6	1	5	22	9	None	None	The Village Hill Apartments system (small C) is within 1,000 feet of a TNC and an NTNC in the northern part of town. A TNC is within 1,000 feet of the CWC -Lebanon Elderly Division (small C)	Three TNCs within 1,000 feet in the northwest part of town. There are two NTNCs and one TNC within 1,000 feet in the center of town. There are two TNCs and one NTNC within 1,000 feet in the east central part of town. There is a TNC and an NTNC within 1,000 feet in the eastern part of town. There are two NTNCs in the northeastern part of town.	None	None	None	None To Date
Southeastern	Ledyard (includes Mashantucket)	8	4	4	5	1	Ledyard WPCA, Mashantucket Pequot Tribal Nation, SCWA - Tower Ferry View	One TNC adjacent to the Ledyard WPCA Gales Ferry System (large C) in the western side of town. SCWA - Chriswood Division (small C), SCWA - Barrett Division (small C), SCWA - Gray Farms Division (small C), four TNCs and one NTNC are within 1,000 feet of the Ledyard WPCA Highlands System (large C) in the north and south central parts of town.	None	None	Mashantucket Pequot Tribal Nation Interconnection with SCWA – North Stonington Division ; SCWA – Barrett Division Interconnection with Ledyard WPCA; SCWA – Chriswood Division Interconnection with Ledyard WPCA; SCWA – Tower-Ferry View Division Interconnection with Ledyard WPCA – Gales Ferry System; SCWA – Ledyard Center Division Interconnection with SCWA – Grey Farms Division or Ledyard WPCA	SCWA – Ledyard Center Division and SCWA, Gray Farms Division	None	There is a desire to build new road in Ledyard Center (Fairway Drive) and provide public water. There are several areas along Route 12 and Route 117 where interconnections could be installed with smaller systems.

Appended Table 1. Town-By-Town Summary of Public Water Systems and Potential Consolidations for the Eastern PWSMA

COG	Town	# of Community Systems	Community Systems		Non-Community Systems		Primary Service Provider(s)	Potential Consolidations by Large CWS	Potential NC Consolidations by Small CWS	Potential Non-Community Consolidations	Planned Interconnections Noted in PWSA (Table 2-10)	Other Potential Interconnections Between Systems within 1,000 feet Noted in PWSA (Table 2-11)	Potential Water Supply Actions Identified in POCDs (Table 6-3)	Potential Water Supply Actions from Municipal Survey Responses (Table 6-4)
			Large (>1000 People)	Small (<1000 People)	TNC	NTNC								
Southeastern	Lisbon	6	2	4	1	3	None	Lisbon Mobile Homes (small C) within 1,000 feet of Norwich Public Utilities (large C) in the south west part of town. One NTNC within 1,000 feet of Jewett City Water Company (large C) in the eastern side of town.	Round Hill LLC Well #1 (small C) within 1,000 feet of Round Hill LLC Well #2 (small C) in the south east part of town.	One TNC and one NTNC within 1,000 feet in the central part of town.	None	None	None	None To Date
Southeastern	Montville (includes Mohegan Tribe)	27	4	23	23	10	Montville Water Supply, Mohegan Tribal Nation Utilities, SCWA - Montville, SCWA - Mohegan	Freedom Village Elderly Housing (small C) and one NTNC within 1,000 feet of the SCWA - Montville Division (large C) in western Montville. One TNC within 1,000 feet of the East Lyme Water and Sewer Commission (large C) in the southwestern part of town. Independence Village Elderly Housing (small C), 261 & 263-271 Route 163 (small C), SCWA - Birchwood Division (small C), Thompson Hill Water Co. - Beechwood Acres (small C), Meadows Apartments (small C), four TNCs, and one NTNC are within 1,000 feet of the Montville Water Supply (large C) in the eastern part of town.	The St. Thomas More School Main System (small C), the St. Thomas More School-The Cove (small C) and one TNC are within 1,000 feet of each other in the northwestern part of town. One TNC within 1,000 feet of the Oakridge Gardens, LLC system (small C) in western Montville. One NTNC within 1,000 feet of the SCWA - Robin Hill Division (small C) in western Montville. Two TNCs within 1,000 feet of the Fox Laurel Mobile Home Park (small C) in the central part of town. One NTNC within 1,000 feet of the SCWA - Chesterfield Division (small C) in the central part of town. The Jensens, Inc. Marina Cove Residential (small C) and the Kitemaug Orchard Association, INC (small C) are within 1,000 feet of each other in the eastern part of town.	Two TNCs within 1,000 feet of each other in the northwest part of town. Six TNCs within 1,000 feet in the southwestern part of town.	SCWA – Mohegan Division Interconnection with Montville WPCA; SCWA – Montville Division Interconnection with SCWA – Seven Oaks Division; SCWA – Birchwood Division Interconnection with SCWA – Mohegan or Montville WPCA	Norwich Public Utilities and Thompson Hill Water Company – Beechwood Acres	None	None To Date
Southeastern	New London	1	1	0	0	0	New London Water Division	None	None	None	Potential Interconnection with Groton Utilities via existing piping owned by several systems	None	None	None To Date
Southeastern	North Stonington	5	1	4	27	7	None	There are two TNCs and one NTNC within 1,000 feet of the SCWA - North Stonington Division (large C) in the southern part of town.	The Northstone Gardens system (small C) is within 1,000 feet of the SCWA - Cedar Ridge Division (small C) in the far southern part of town along the Stonington border.	There are five TNCs within 1,000 feet of each other in the west central part of town. There are three TNCs within 1,000 feet of each other in the northern part of town. There are six TNCs and one NTNC within 1,000 feet of each other in the eastern part of town. There is one TNC and two NTNCs within 1,000 feet of each other in the southeast part of town. There are three TNCs and two NTNCs within 1,000 feet of each other in the southern part of town. There are four TNCs within 1,000 feet in the southern part of town. There are two TNCs within 1,000 feet in the far southern part of town.	Mashantucket Pequot Tribal Nation Interconnection with SCWA – North Stonington Division; SCWA – North Stonington Division Interconnection with future Town of North Stonington system; Future Town of North Stonington Interconnection with Aquarion Water Company – Mystic system; SCWA – Cedar Ridge Division Interconnection with future Town of North Stonington system	None	None	None To Date
Southeastern	Norwich	6	1	5	8	1	Norwich Public Utilities	The Countryside Drive Association (small C), Sunny Waters Mobile Home Park (small C), three TNCs and one NTNC are within 1,000 feet of Norwich Public Utilities (large C) throughout town.	The Pleasure Valley M.H.P. System #1 (small C), Pleasure Valley M.H.P. System #2 (small C), and Pleasure Valley M.H.P. System #3 (small C) are adjacent to each other in the northern part of town.	None	Norwich Public Utilities Interconnection with Ledyard WPCA and Montville WPCA via Poquetanuck Cove (Route 12); Sprague Water & Sewer Commission Interconnection with Norwich Public Utilities	None	None	None To Date
Southeastern	Preston	4	1	3	17	1	None	None	Lincoln Park Elderly Housing (small C) within 1,000 feet of three TNCs in the southern part of town.	Two TNCs within 1,000 feet in the southern part of town. There are two TNCs within 1,000 feet in the southeast central part of town. One TNC and one NTNC within 1,000 feet in the east central part of town.	Preston Plains Water Company - Increase transfers from Mashantucket Pequot Tribal Nation	None	None	None To Date
Southeastern	Salem	3	0	3	7	4	None	None	Salem Manor Condominiums System #1 (small C) within 1,000 feet of Salem Manor Condominiums System #2 (small C) in the northeast part of town.	Two TNCs within 1,000 feet in the north central part of town. Two TNCs within 1,000 feet in the central part of town. Three NTNCs and one TNC within 1,000 feet in the central part of town.	None	None	None	None To Date
Southeastern	Sprague	1	1	0	3	2	Sprague Water and Sewer Authority	One TNC within 1,000 feet of the Sprague Water and Sewer Authority (large C) in the southern part of town.	None	None	Sprague Water & Sewer Commission Interconnection with Norwich Public Utilities	None	None	None To Date
Southeastern	Stonington	6	2	4	12	4	Aquarion Water Co of CT-Mystic, Westerly Water Department	The CWC - Masons Island (small C), Classee Water System - Latimer Point (small C), SCWA - Lantern Hill Division (small C) and two TNCs are within 1,000 feet of Aquarion - Mystic (large C) in the southern and western parts of town. There are two TNCs and one NTNC within 1,000 feet of the Westerly Water Department (large C) in the eastern part of town.	None	There are two NTNCs within 1,000 feet in the central part of town. There are Two TNCs within 1,000 feet in the southern part of town.	Future Town of North Stonington System Interconnection with Aquarion – Mystic system; Westerly Water Department Interconnection with Aquarion Water Company – Mystic system; SCWA – Lantern Hill Division Interconnection with Aquarion Water Company – Mystic system	None	None	There is a desire to consolidate and/or reduce the number of small systems.
Southeastern	Waterford	2	1	1	2	0	Waterford WPCA	None	None	None	Potential Interconnection with Groton Utilities via existing piping owned by several systems	None	None	None To Date
Southeastern	Windham	3	1	2	7	3	Windham Water Works	There are five TNCs within 1,000 feet of Windham Water Works (large C) in the western part of town.	None	There are two TNCs and one NTNC within 1,000 feet of each other in the central part of town	Windham Water Works Interconnection with University of Connecticut or Norwich Public Utilities	None	None	None To Date

APPENDED FIGURES

Figure 1: Small Community Public Water System Capacity Assessment Map



LEGEND

- NON-COMMUNITY WATER SYSTEMS
- AQUIFER PROTECTION AREAS (APA)
- PWS WATERSHED
- COMMUNITY WATER SYSTEMS

Exclusive Service Area

- EXCLUSIVE UNASSIGNED/UNDEFINED
- AQUARION WATER COMPANY
- COLCHESTER SEWER & WATER COMMISSION
- CONNECTICUT WATER COMPANY
- EAST LYME WATER & SEWER COMMISSION
- GROTON LONG POINT ASSOCIATION
- GROTON UTILITIES
- JEWETT CITY WATER COMPANY
- MONTVILLE WATER SUPPLY
- NEW LONDON DEPT. OF PUBLIC UTILITIES
- NOANK FIRE DISTRICT
- NORWICH PUBLIC UTILITIES
- SOUTHEASTERN CONNECTICUT WATER AUTHORITY
- SPRAGUE WATER & SEWER AUTHORITY
- TOWN OF FRANKLIN
- TOWN OF LEBANON
- TOWN OF LEDYARD
- TOWN OF NORTH STONINGTON
- TOWN OF PRESTON
- TOWN OF STONINGTON
- WATERFORD UTILITIES COMMISSION

Union
CT1699061 SOLAIR RECREATIONAL-LEAGUE - LOWER RIDGE
CT1411041 QUINEBAUG MOBILE HOME PARK
CT1699081 FAWN RIDGE ASSOCIATION INC.
Woodstock
Thompson
CT1419081 MARIANAPOLIS PREP SCHOOL -ST ALBERTS
CT1410661 THOMPSON HILL WATER CO - PAULA LANE DIV
CT1419071 JUSTICE RESOURCE INSTITUTE, INC.
CT1698011 WOODSTOCK MEADOWS CONDOMINIUM ASSN.
CT1690021 ROSELAND TERRACE ASSOCIATION, INC.
CT1698051 CTWC - CORNFIELD POINT DIV.
CT1699011 BROOKWOOD APARTMENTS
CT1690031 WOODSTOCK HOUSING AUTHORITY
CT1698041 PINECREST CONDOMINIUMS
CT1160021 MATULAITIS NURSING HOME
CT1160011 PUTNAM WTR POLLUTION CONTROL AUTHORITY
Putnam
Ashford
Eastford
CT0030021 PERRY HILL ESTATES APARTMENTS INC.
CT0037001 EVANGELICAL CHRISTIAN CENTER - MAIN
CT0030041 BIRCH HILLS CONDOMINIUMS
CT0030411 CTWC - POMPEY HOLLOW DIVISION
CT0030031 CTWC - ASHFORD PARK DIVISION
CT0030061 MAR-LEA PARK APTS
CT1121131 SEELY - BROWN VILLAGE
CT1120061 THE RECTORY SCHOOL
CT1120051 POMFRET SCHOOL
CT0691011 WESTVIEW NURSING CARE & REHAB CTR, INC.
Pomfret
CT1121011 WOODLAND APARTMENTS
CT0690061 COUNTRY ACRES PARK
CT0690071 CONRADS PARK
Killingly
CT0690011 CTWC - CRYSTAL WATER COMPANY
CT0190051 BROOKLYN MANOR
CT0690141 CRANBERRY BOG APARTMENTS
Brooklyn
CT0199091 GORMAN ROAD APARTMENTS
CT0690051 FALL BROOK MOBILE HOME PARK
Chaplin
Hampton
CT0248011 CHAPLIN WOODS CONDOMINIUMS
Sterling
CT1099181 MOOSUP POND TERRACE, LLC
CT1099131 MOOSUP MANOR
CT1090271 PICKETT ROAD APARTMENTS
CT1090221 MOOSUP GARDEN APARTMENTS
CT1360074 GIBSON HILL PARK
CT1360011 STERLING WATER SYSTEM
CT1630011 WINDHAM WATER WORKS
Windham
CT1631031 DOUGLAS MANOR
CT1630021 WYNDHAM PARK APARTMENTS
Scotland
Canterbury
CT0220191 KNOLLBROOK VILLAGE ELDERLY HOUSING
Plainfield
CT1090161 WESTVIEW TERRACE MOBILE HOME PARK
CT0220011 LONGVIEW ESTATES, LLC
CT0711001 VILLAGE HILL APARTMENTS
CT0711071 CTWC - LEBANON ELDERLY DIV.
Lebanon
CT0710011 CAREFREE HOMEOWNERS ASSOCIATION
CT0710021 AQUARION WATER CO OF CT-LEBANON DIVISION
Sprague
CT1330021 SPRAGUE WATER & SEWER AUTHORITY
CT0229031 CAMPBELL HEIGHTS APARTMENTS - SYSTEM #2
Franklin
CT1041001 PLEASURE VALLEY M.H.P. - SYSTEM #1
CT1041031 PLEASURE VALLEY M.H.P. - SYSTEM #3
CT0730021 JEWETT CITY WATER CO-HILL-N-DALE
CT1040091 SUNNY WATERS MOBILE HOME PARK
CT1040061 COUNTRYSIDE DRIVE ASSOCIATION
Lisbon
CT0580011 JEWETT CITY WATER COMPANY
Griswold
CT0580051 JEWETT CITY WATER CO., S & W SYSTEM
CT0580021 CTWC - GALLUP WATER -COUNTRY MOBILE DIV.
CT1479021 VOLUNTOWN HOUSING AUTHORITY
Voluntown
CT1470011 CTWC - SDC WATER
CT0580031 LAKEVIEW MOBILE HOME PARK
CT0731031 ROUND HILL LLC - WELL #2
CT0730031 LISBON MOBILE HOMES
CT0731011 TUNNEL HILL MOBILE HOME PARK
CT0280061 KNOB HILL CONDOMINIUMS, WELL #5
CT0282001 CTWC - WESTCHESTER VILLAGE
CT0280071 CTWC - PONEMAH VILLAGE
CT0280011 COLCHESTER SEWER & WATER COMMISSION
CT0280041 GAIA GARDENS
Colchester
CT0286011 COLCHESTER COMMONS
Bozrah
CT1040011 NORWICH PUBLIC UTILITIES
Norwich
CT1140471 STRAWBERRY PARK
Preston
CT0580041 CTWC - SHORELINE REG-BAY MOUNTAIN
CT1219111 SALEM MANOR CONDOMINIUMS, SYSTEM #2
CT0861251 ST. THOMAS MORE SCHOOL-MAIN SYSTEM
Montville
CT0861021 MEADOWS APARTMENTS
CT0867071 THOMPSON HILL WATER CO - BEECHWOOD ACRES
010109005 MOHEGAN TRIBAL NATION UTILITIES
CT0866051 STONY BROOK MOBILE HOME PARK
CT1140021 LINCOLN PARK ELDERLY HOUSING
CT1140011 PRESTON PLAINS WATER COMPANY
Salem
CT0866301 FREEDOM VILLAGE ELDERLY HOUSING
CT0860011 SCWA, MONTVILLE DIVISION (MTV)
CT0861111 FOX LAUREL MOBILE HOME PARK, LLC
CT1210021 CRYSTAL LAKE CONDOMINIUMS
CT0867101 SCWA, ROBIN HILL DIVISION (RBN)
CT0860081 SCWA, CHESTERFIELD DIVISION
CT0860211 OAKRIDGE VILLAGE
CT0860031 OAKDALE HEIGHTS ASSOCIATION, INC
CT0860021 SCWA, MOHEGAN DIVISION
CT0869011 SCWA, BIRCHWOOD DIVISION (BWD)
CT0860041 KITEMAUG ORCHARD ASSOCIATION, INC.
CT0860141 JENSENS, INC. MARINA COVE RESIDENTIAL
CT0864011 MONTVILLE WATER SUPPLY
CT0860131 SCWA, HILLCREST DIVISION (HLC)
CT0860051 DEER RUN SUPPLY
Ledyard
CT0720081 SCWA, GRAY FARMS DIVISION (GRF)
CT0720313 SCWA, LEDYARD CENTER DIVISION
CT0720031 LEDYARD WPCA, HIGHLANDS SYSTEM
CT0720101 ASH WATER COMPANY, LLC
CT0720011 SCWA, BARRETT DIVISION (BAR)
CT0727051 LEDYARD WPCA, GALES FERRY SYSTEM
CT0727031 SCWA, CHRISWOOD DIVISION (CWD)
North Stonington
CT1020021 SCWA, NORTH STONINGTON DIVISION (NST)
CT1020011 SCWA, CEDAR RIDGE DIVISION
CT1370071 ARLINGTON ACRES MANUFACT HOUSE COMM, LLC
CT1370021 SCWA, LANTERN HILL DIVISION (LNH)
CT1520061 WATERFORD COUNTRY SCHOOL, INC.
Waterford
CT1520071 WATERFORD WPCA
CT0950011 NEW LONDON WATER DIVISION
East Lyme
CT0450011 EAST LYME WATER & SEWER COMMISSION
New London
Groton
CT0590071 COLONIAL EFFICIENCY APARTMENTS
CT0590011 GROTON UTILITIES
CT0597021 ROGERS MOBILE HOME PARK - GROTON
Stonington
CT1370011 AQUARION WATER CO OF CT-MYSTIC
CT0598011 WHIPPLES MOBILE HOME PARK
RI1370031 WESTERLY WATER DEPT

EASTERN PWSMA OVERVIEW

EASTERN CONNECTICUT WATER SUPPLY ASSESSMENT

N W E S

SOURCE: CT DPH, CT DEEP

SJB	SJB	DM
DESIGNED	DRAWN	CHECKED

SCALE: 1:96,000

PROJECT NO.: 1017-05-03

Engineering, Landscape Architecture and Environmental Science

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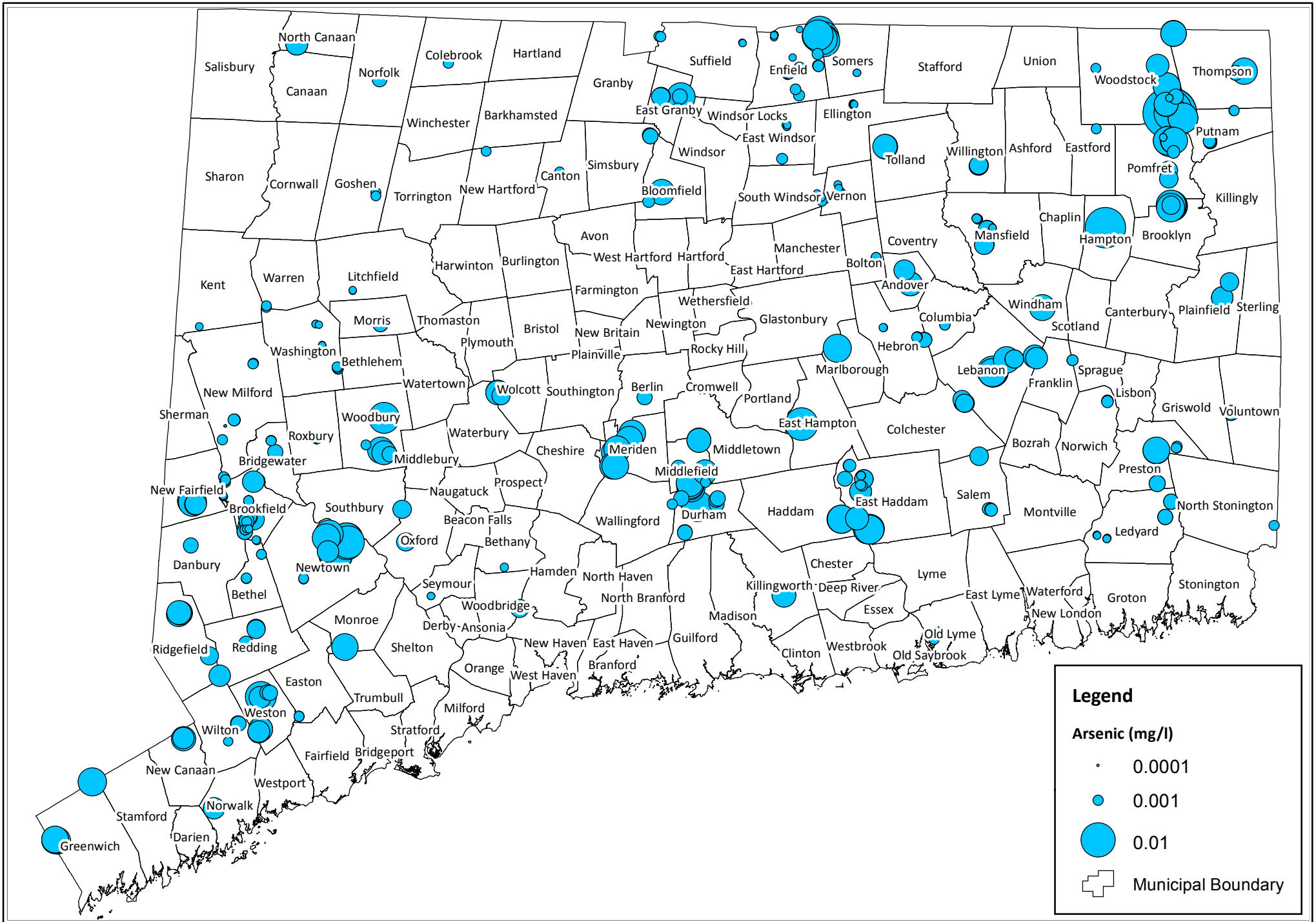
DATE: NOVEMBER 4, 2016

SHEET: APPENDED FIGURE 2



SOURCE(S):
CT DPH, CT DEEP

N

Appended Figure 3:
Arsenic Concentrations Above the Detection Limit in Public Water Supply Wells

MXD: Y:\1017-05\GIS\Maps\ Arsenic.mxd

Final Water Supply Assessment

LOCATION: Connecticut

Map By:	SJB
MMI#:	1017-05-03
Original:	11/28/2016
Revision:	11/28/2016
Scale:	1 in = 53,000 ft

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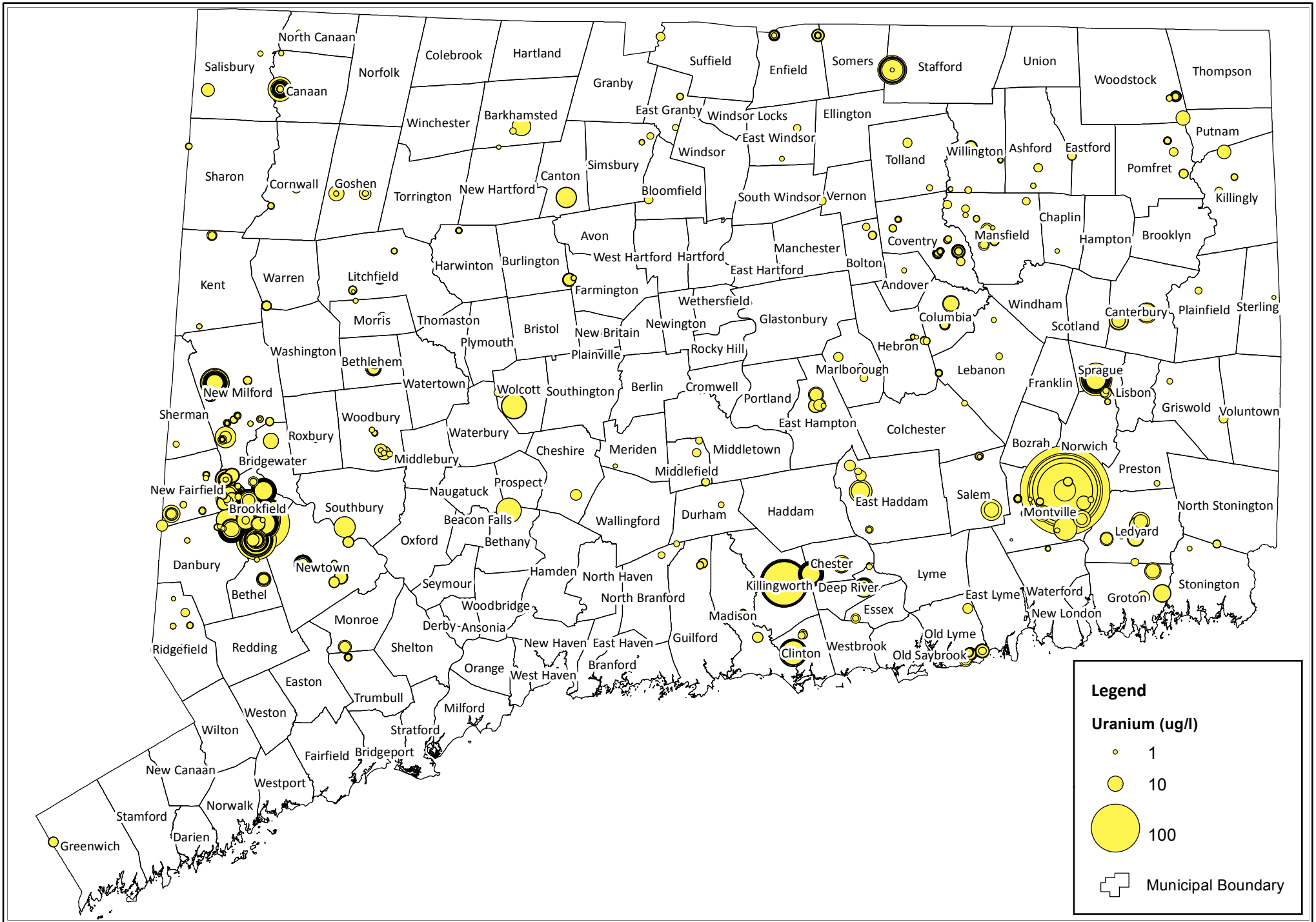

SOURCE(S):
CT DPH, CT DEEP

N

Appended Figure 4: Combined Uranium Concentrations Above the Detection Limit in Public Water Supply Wells

MXD: Y:\1017-05\GIS\Maps\ Uranium.mxd

Final Water Supply Assessment

LOCATION: Connecticut

Map By:	SJB
MMI#:	1017-05-03
Original:	11/28/2016
Revision:	11/28/2016
Scale:	1 in = 53,000 ft

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APPENDIX A

NOTIFICATIONS

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Raul Pino, M.D., M.P.H.
Commissioner

Dannel P. Malloy
Governor

Nancy Wyman
Lt. Governor

Drinking Water Section

DWS Circular Letter #2016-14

To: Related State Agencies
Chief Elected Officials
Town Planners
Town Clerks
Planning and Zoning Officers
Executive Directors of Councils of Governments
Local Health Departments and Districts
Public Water Systems
Other Interested Persons

From: Lori J. Mathieu, Public Health Section Chief, Drinking Water Section

Date: May 20, 2016

Subject: Official Convening of the Water Utility Coordinating Committees

Pursuant to *Conn. Gen. Stat.* § 25-33f and § 25-33h-1(b) of the Regulations of the Connecticut State Agencies, the Commissioner of Public Health, following the final altered priorities established pursuant to *Conn. Gen. Stat.* § 25-33e and § 25-33h-1(j) of the Regulations of the Connecticut State Agencies, plans to convene the Water Utility Coordinating Committees in the following order, dates, and times:

Western	Town of Brookfield Town Hall Tuesday, June 14, 2016 from 10 am to 12 pm
Central Corridor	City of Middletown City Hall Wednesday, June 15, 2016 from 1:30 pm to 3:30 pm
Eastern	Southeast Connecticut Council of Governments Friday, June 17, 2016 from 1pm to 3pm

Attached for your information is a copy of the legal notice and the official convening announcement. The legal notice has been published in a newspaper, which has the largest daily circulation within each of the WUCC management areas. These notices are also available on the Drinking Water Section's website at the following link: http://www.ct.gov/dph/WUCC.

DPH is an equal opportunity provider. If you require aid/accommodation to participate fully and fairly, please contact Eric McPhee at (860) 509-7333.

cc: Ellen Blaschinski, Public Health Branch Chief, DPH

Keeping Connecticut Healthy
DPH
Connecticut Department of Public Health

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

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Raul Pino, M.D., M.P.H.
Commissioner

Dannel P. Malloy
Governor

Nancy Wyman
Lt. Governor

NOTICE OF THE CONVENING OF THE
WESTERN WATER UTILITY COORDINATING COMMITTEE

Pursuant to *Conn. Gen. Stat.* § 25-33f and § 25-33h-1(b) of the Regulations of the Connecticut State Agencies, I have convened the Western Water Utility Coordinating Committee ("Western WUCC") by publishing on a legal notice, a copy of which is enclosed, in the Waterbury Republican which is the newspaper having the largest daily circulation in the Western public water supply management area, as well as in the Danbury News-Times, NE News Today and La Voz Hispana newspapers. As stated in the legal notice, a meeting will be held on **June 14, 2016** at **10 a.m. in Conference Room 133 at the Brookfield Town Hall, 100 Pocono Road, Brookfield, Connecticut** to implement the planning process established by *Conn. Gen. Stat.* §§ 25-33f, 25-33g and 25-33h.

You are receiving a copy of the legal notice because, based on the Department of Public Health's ("DPH") currently available records, you are an eligible member of the Western WUCC. The eligible members of the Western WUCC consist of one representative of each public water system with a source of water supply or a service area within the Western public water supply management area and one representative from each regional council of governments within such area, elected by majority vote of the chief elected officials of the municipalities that are members of such regional council of governments.

In addition, I have convened the Central Corridor and Eastern WUCCs. The meeting of the Central Corridor WUCC is on June 15, 2016 at 1:30 p.m. in Common Council Chambers at the Middletown City Hall, 24 deKoven Drive, Middletown, Connecticut and the meeting of the Eastern WUCC is on June 17, 2016 at 1 p.m. at the Southeast Connecticut Council of Governments office, 5 Connecticut Avenue, Norwich, Connecticut.

Information regarding the WUCCs is available on the Department of Public Health ("DPH") Drinking Water Section's website at: http://www.ct.gov/dph/WUCC.

I appreciate your involvement in the very important WUCC planning process. If you have any questions, please do not hesitate to call Justin Milardo, DPH Drinking Water Section, at (860) 509-7333.

05/19/16
Date

Raul Pino, MD, MPH
Commissioner of the
State of Connecticut Department of Public Health

Enc.

Phone: (860) 509-8000 • Fax: (860) 509-7184
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Hartford, Connecticut 06134-0308
www.ct.gov/dph
Affirmative Action/Equal Opportunity Employer

LEGAL NOTICE

Pursuant to *Conn. Gen. Stat*. § 25-33f and § 25-33h-1(b) of the Regulations of the Connecticut State Agencies, the Commissioner of Public Health, following the final altered priorities established pursuant to *Conn. Gen. Stat.* § 25-33e and § 25-33h-1(j) of the Regulations of the Connecticut State Agencies on October 24, 2014, hereby convenes the Western Water Utility Coordinating Committee ("Western WUCC") on June 14, 2016 at 10 a.m. in Meeting Room 133 at the Brookfield Town Hall, 100 Pocono Road, Brookfield, Connecticut to implement the planning process established by *Conn. Gen. Stat*. §§ 25-33f, 25-33g and 25-33h. The eligible members of the Western WUCC consist of one representative of each public water system with a source of water supply or a service area within the Western public water supply management area and one representative from each regional council of governments within such area, elected by majority vote of the chief elected officials of the municipalities that are members of such regional council of governments.

Following the final altered priorities established pursuant to *Conn. Gen. Stat.* § 25-33e and § 25-33h-1(j) of the Regulations of the Connecticut State Agencies on October 24, 2014, the Commissioner of Public Health plans to convene the Central Corridor WUCC on June 15, 2016 at 1:30 p.m. in Common Council Chambers at the Middletown City Hall, 24 deKoven Drive, Middletown, Connecticut and the Eastern WUCC on June 17, 2016 at 1 p.m. in the Southeast Connecticut Council of Governments office, 5 Connecticut Avenue, Norwich, Connecticut.

Information regarding the WUCCs is available on the Department of Public Health Drinking Water Section's website at: http://www.ct.gov/dph/WUCC.

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Raul Pino, M.D., M.P.H.
Commissioner

Dannel P. Malloy
Governor

Nancy Wyman
Lt. Governor

NOTICE OF THE CONVENING OF THE
CENTRAL CORRIDOR WATER UTILITY COORDINATING COMMITTEE

Pursuant to *Conn. Gen. Stat.* § 25-33f and § 25-33h-1(b) of the Regulations of the Connecticut State Agencies, I have convened the Central Corridor Water Utility Coordinating Committee ("Central Corridor WUCC") by publishing on a legal notice, a copy of which is enclosed, in the Hartford Courant which is the newspaper having the largest daily circulation in the Central Corridor public water supply management area, as well as in the New Haven Register, NE News Today and La Voz Hispana newspapers. As stated in the legal notice, a meeting will be held on **June 15, 2016** at **1:30 p.m. in the Common Council Chambers at the Middletown City Hall, 24 deKoven Drive, Middletown, Connecticut** to implement the planning process established by *Conn. Gen. Stat.* §§ 25-33f, 25-33g and 25-33h.

You are receiving a copy of the legal notice because, based on the Department of Public Health's ("DPH") currently available records, you are an eligible member of the Central Corridor WUCC. The eligible members of the Central Corridor WUCC consist of one representative of each public water system with a source of water supply or a service area within the Central Corridor public water supply management area and one representative from each regional council of governments within such area, elected by majority vote of the chief elected officials of the municipalities that are members of such regional council of governments.

In addition, I have convened the Western and Eastern WUCCs. The meeting of the Western WUCC is on June 14, 2016 at 10 a.m. in Meeting Room 133 at the Brookfield Town Hall, 100 Pocono Road, Brookfield, Connecticut and the meeting of the Eastern WUCC is on June 17, 2016 at 1 p.m. at the Southeast Connecticut Council of Governments office, 5 Connecticut Avenue, Norwich, Connecticut.

Information regarding the WUCCs is available on the Department of Public Health ("DPH") Drinking Water Section's website at: http://www.ct.gov/dph/WUCC.

I appreciate your involvement in the very important WUCC planning process. If you have any questions, please do not hesitate to call Justin Milardo, DPH Drinking Water Section, at (860) 509-7333.

05/19/16
Date

Raul Pino, MD, MPH
Commissioner of the
State of Connecticut Department of Public Health

Enc.

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LEGAL NOTICE

Pursuant to *Conn. Gen. Stat*. § 25-33f and § 25-33h-1(b) of the Regulations of the Connecticut State Agencies, the Commissioner of Public Health, following the final altered priorities established pursuant to *Conn. Gen. Stat.* § 25-33e and § 25-33h-1(j) of the Regulations of the Connecticut State Agencies on October 24, 2014, hereby convenes the Central Water Utility Coordinating Committee ("Central WUCC") on June 15, 2016 at 1:30 p.m. in the Common Council Chambers at the Middletown City Hall, 24 deKoven, Middletown, Connecticut to implement the planning process established by *Conn. Gen. Stat*. §§ 25-33f, 25-33g and 25-33h. The eligible members of the Central WUCC consist of one representative of each public water system with a source of water supply or a service area within the Central public water supply management area and one representative from each regional council of governments within such area, elected by majority vote of the chief elected officials of the municipalities that are members of such regional council of governments.

Following the final altered priorities established pursuant to *Conn. Gen. Stat.* § 25-33e and § 25-33h-1(j) of the Regulations of the Connecticut State Agencies on October 24, 2014, the Commissioner of Public Health plans to convene the Western WUCC on June 14, 2016 at 10 a.m. in Meeting Room 133 at the Brookfield Town Hall, 100 Pocono Road, Brookfield, Connecticut and the Eastern WUCC on June 17, 2016 at 1 p.m. in the Southeast Connecticut Council of Governments office, 5 Connecticut Avenue, Norwich, Connecticut.

Information regarding the WUCCs is available on the Department of Public Health Drinking Water Section's website at: http://www.ct.gov/dph/WUCC.

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Raul Pino, M.D., M.P.H.
Commissioner

Dannel P. Malloy
Governor

Nancy Wyman
Lt. Governor

NOTICE OF THE CONVENING OF THE
EASTERN WATER UTILITY COORDINATING COMMITTEE

Pursuant to *Conn. Gen. Stat.* § 25-33f and § 25-33h-1(b) of the Regulations of the Connecticut State Agencies, I have convened the Eastern Water Utility Coordinating Committee ("Eastern WUCC") by publishing a legal notice, a copy of which is enclosed, in the New London Day which is the newspaper having the largest daily circulation in the Eastern public water supply management area, as well as in the Norwich Bulletin, NE News Today and La Voz Hispana newspapers. As stated in the legal notice, a meeting will be held on **June 17, 2016** at **1 p.m. at the Southeast Connecticut Council of Governments office, 5 Connecticut Avenue, Norwich, Connecticut** to implement the planning process established by *Conn. Gen. Stat.* §§ 25-33f, 25-33g and 25-33h.

You are receiving a copy of the legal notice because, based on the Department of Public Health's ("DPH") currently available records, you are an eligible member of the Eastern WUCC. The eligible members of the Eastern WUCC consist of one representative of each public water system with a source of water supply or a service area within the Eastern public water supply management area and one representative from each regional council of governments within such area, elected by majority vote of the chief elected officials of the municipalities that are members of such regional council of governments.

In addition, I have convened the Western and Central Corridor WUCCs. The meeting of the Western WUCC is on June 14, 2016 at 10 a.m. in Meeting Room 133 at the Brookfield Town Hall, 100 Pocono Road, Brookfield, Connecticut and the meeting of the Central Corridor WUCC is on June 15, 2016 at 1:30 p.m., in the Common Council Chambers, at the Middletown City Hall, 24 deKoven Drive, Middletown, Connecticut.

Information regarding the WUCCs is available on the Department of Public Health ("DPH") Drinking Water Section's website at: http://www.ct.gov/dph/WUCC.

I appreciate your involvement in the very important WUCC planning process. If you have any questions, please do not hesitate to call Justin Milardo, DPH Drinking Water Section, at (860) 509-7333.

05/19/16
Date

Raul Pino, MD, MPH
Commissioner of the
State of Connecticut Department of Public Health

Enc.

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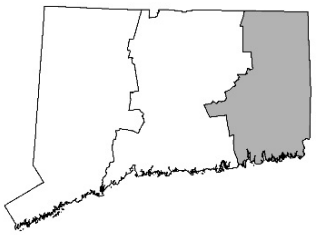
LEGAL NOTICE

Pursuant to *Conn. Gen. Stat*. § 25-33f and § 25-33h-1(b) of the Regulations of the Connecticut State Agencies, the Commissioner of Public Health, following the final altered priorities established pursuant to *Conn. Gen. Stat.* § 25-33e and § 25-33h-1(j) of the Regulations of the Connecticut State Agencies on October 24, 2014, hereby convenes the Eastern Water Utility Coordinating Committee ("Eastern WUCC") on June 17, 2016 at 1 p.m. at the Southeast Connecticut Council of Governments office, 5 Connecticut Avenue, Norwich, Connecticut to implement the planning process established by *Conn. Gen. Stat*. §§ 25-33f, 25-33g and 25-33h. The eligible members of the Eastern WUCC consist of one representative of each public water system with a source of water supply or a service area within the Eastern public water supply management area and one representative from each regional council of governments within such area, elected by majority vote of the chief elected officials of the municipalities that are members of such regional council of governments.

Following the final altered priorities established pursuant to *Conn. Gen. Stat.* § 25-33e and § 25-33h-1(j) of the Regulations of the Connecticut State Agencies on October 24, 2014, the Commissioner of Public Health plans to convene the Western WUCC on June 14, 2016 at 10 a.m. in Meeting Room 133 at the Brookfield Town Hall, 100 Pocono Road, Brookfield, Connecticut and the Central WUCC on June 15, 2016 at 1:30 p.m. in the Common Council Chambers, at the Middletown City Hall, 24 deKoven Drive, Middletown, Connecticut.

Information regarding the WUCCs is available on the Department of Public Health Drinking Water Section's website at: http://www.ct.gov/dph/WUCC.

Eastern Region
Water Utility Coordinating Committee



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Mark Decker, Tri-Chair
MarkDecker@npumail.com
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Patrick Bernardo, Tri-Chair
Patrick.bernardo@suez-na.com
856-718-7003

Samuel Alexander,
Recording Secretary
Samuel.alexander@neccog.org
860-774-1253

June 27, 2016

WUCC Members
Municipal Officials
Interested Persons

RE: Notice of Commencement Preliminary Water Supply Assessment
Eastern Region WUCC

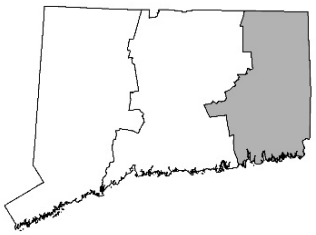
The Eastern Region Water Utility Coordinating Committee (WUCC) has begun a two year drinking water supply planning process in the eastern region public water supply management area. In accordance with Section 25-33h-1(c)(5) of the Regulations of Connecticut State Agencies, this letter is being sent to all eligible WUCC members within the eastern public water supply management area, Chief Administrative Officials, and other interested persons to provide notice that a preliminary assessment of public drinking water supply conditions and problems is being undertaken. A Preliminary Water Supply Assessment will be prepared and shared with WUCC members and the general public as part of the Eastern Region Coordinated Water System Plan.

Eligible WUCC members include one representative from each public water system with a source of supply or service area within the public water supply management area and one representative from each regional planning agency within the public water supply management area, elected by majority vote of the chief elected officials of the municipalities that are members of such regional planning agency. A public water system is any private, municipal or regional utility supplying water for human consumption through pipes or other constructed conveyances to at least 15 service connections or that serves an average of at least 25 people daily for at least 60 days per year.

The Water Supply Assessment (WSA) will be the first of four documents that will be created through the Eastern Region WUCC planning process. The WSA is a review of the existing public water supply systems, assessing conditions, needs, issues, and deficiencies. Specifically, the assessment will include a description of existing water systems; availability and adequacy of any future water sources; existing service area boundaries and public water system limits established by statute, special act, or administrative decision; present and projected growth rates; and status of water system planning, land use planning, and coordination between public water systems.

The Eastern Region WUCC encourages participation in all stages of the WUCC process in order to receive input from all affected parties. It is important to participate in order to understand how this process and specifically the water supply assessment document will affect public water systems, communities, and the region. Discussion of this topic will begin at the next regularly scheduled WUCC meeting to be held on July 13, 2016 at the Southeastern Connecticut Council of Governments; 5 Connecticut Avenue; Norwich, CT at 1:00 p.m. Members of the public may attend.

Eastern Region
Water Utility Coordinating Committee



Additional information pertaining to the Eastern Region Water Utility Coordinating Committee, including past and future meeting agendas, meeting minutes, correspondence, mapping, and publications may be found at the following web site: http://www.ct.gov/dph/cwp/view.asp?a=3139&q=576502%20

Very Truly Yours,

Robert Congdon
Eastern Region WUCC Tri-Chair

Mark Decker
Eastern Region WUCC Tri-Chair

Patrick Bernardo
Eastern WUCC Tri-Chair

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Raul Pino, M.D., M.P.H.
Commissioner

Dannel P. Malloy
Governor

Nancy Wyman
Lt. Governor

Drinking Water Section

DWS Circular Letter #2016-19

To: Related State Agencies
Chief Elected Officials
Town Planners
Town Clerks
Planning and Zoning Officers
Executive Directors of Councils of Governments
Local Health Departments and Districts
Public Water Systems
Other Interested Persons

From: Lori J. Mathieu, Public Health Section Chief, Drinking Water Section

Date: June 29, 2016

Subject: Webinar Explaining the Water Utility Coordinating Committee Process

The Connecticut Department of Public Health Drinking Water Section (DWS) will be conducting a webinar on August 25, 2016 at 1pm, to discuss steps taken to date in order to convene the three Water Utility Coordinating Committees (WUCCs).

The Western, Central Corridor, and Eastern WUCCs have been convened on June 14, 2016, June 15, 2016 and June 17, 2016 respectively. This webinar will cover the history and implementation of *Conn. Gen. Stat* §§ 25-33f, 25-33g and 25-33h. Other topics to be discussed include the data collection process, the contract and role of Milone and MacBroom to facilitate the process, in addition to the responsibilities each WUCC is mandated to complete over the next 24 months.

We would encourage those involved or interested in the WUCC process to register for this informational webinar. For more information, please visit the DWS Water Utility Coordinating Committee website at www.ct.gov/dph/WUCC.

Keeping Connecticut Healthy
DPH
Connecticut Department of Public Health

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410 Capitol Avenue, P.O. Box 340308, MS#51WAT
Hartford, Connecticut 06134-0308
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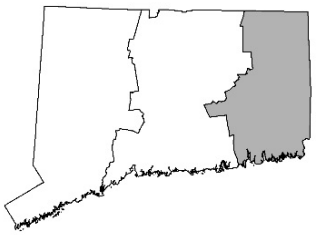
Eastern Region
Water Utility Coordinating Committee



July 26, 2016

Via Electronic Mail

To: Council of Government Directors & Representatives to the Eastern WUCC

Northeastern Connecticut Council of Governments
Mr. John Filchak – Executive Director
Mr. Samuel Alexander – Regional Project Analyst

Southeastern Connecticut Council of Governments
Mr. James Butler, AICP – Executive Director
Ms. Amanda Kennedy – Director of Special Projects
Mr. Tom Seidel – Senior Planner
Mr. Michael Murphy – Planner

Robert Congdon, Tri-Chair
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Patrick.bernardo@suez-na.com
856-718-7003

Samuel Alexander,
Recording Secretary
Samuel.alexander@neccog.org
860-774-1253

RE: Request for Information
Preliminary Water Supply Assessment
Eastern Region WUCC

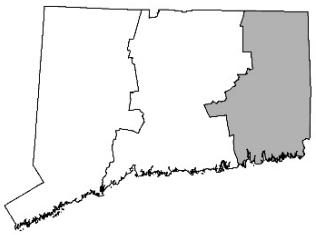
The Eastern Region Water Utility Coordinating Committee (WUCC) has begun the Water Supply Assessment (WSA) portion of the WUCC planning process. The WSA is a review of the existing public water supply systems, assessing conditions, needs, issues, and deficiencies. Specifically, the assessment will include a description of existing water systems; availability and adequacy of any future water sources; existing service area boundaries and public water system limits established by statute, special act, or administrative decision; present and projected growth rates; and status of water system planning, land use planning, and coordination between public water systems.

As discussed at the meeting on July 13, 2016, the Easter Region WUCC is in need of input from all the towns and cities within the Eastern WUCC Region. During this meeting, the Council of Governments representatives were asked to reach out to the communities to which they represent and work toward obtaining information on water related issues from each city or town. Ideally, information would be made available by your communities for you to report before the September 14, 2016 Eastern WUCC meeting such that preliminary comments from the communities could be incorporated into the Preliminary WSA for public review and comment.

The questions we are hoping to receive feedback from each community include (please note that these may not apply to all communities):

- Is the creation of a public water system desired in any village centers (or other areas where there is a concentration of residential or commercial uses) due to high development density and challenging lot sizes, perhaps coupled with a desire for nominal growth?

Eastern Region
Water Utility Coordinating Committee



- Is the creation of a public water system desired in any village center (or other areas where there is a concentration of residential or commercial uses) due to water quality concerns?

- Do you know of any examples of water systems in need of assistance or experiencing problems? In other words, systems generating citizen complaints that may benefit from consolidation with or acquisition by a larger water company, or systems with insufficient supply that need to truck in water via tanker truck during the summer?

- Where is the movement of water needed from areas of surplus to areas of need where interconnections are already present?

- Do you know of any examples where it may be prudent to eliminate small systems where nearby larger water system expansions have occurred?

- Is there a desire to reduce the number of small systems, even where options are limited?

- Can you think of any new water system interconnections that could address any of the challenges described above?

- If the community owns and operates one or more water systems, has there been a lack of funding for desired water system expansions?

If you could provide a written summary of the information it would be very helpful to development of the WSA. If you have any questions please feel to reach out to us for any clarification we can provide. If possible, please plan on bringing any collected information to our August 10, 2016 meeting for discussion, or provide to the Recording Secretary anytime up to September 14th. Please remember that information can be received after September 14th during the public comment period for the WSA. However, we would like to receive information as soon as possible such that everyone reviewing the document will have a full view of the goals and challenges in the region.

We want to thank you for the time and effort, and please reach out to us if you have any questions or need any assistance.

Additional information pertaining to the Eastern Region Water Utility Coordinating Committee, including past and future meeting agendas, meeting minutes, correspondence, mapping, and publications may be found at the following web site: http://www.ct.gov/dph/cwp/view.asp?a=3139&q=576502%20

Very Truly Yours,

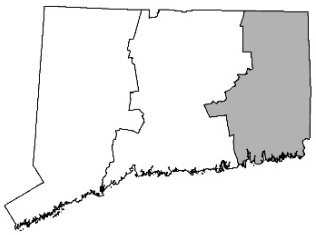
Robert Congdon
Eastern Region WUCC Tri-Chair

Mark Decker
Eastern Region WUCC Tri-Chair

Patrick Bernardo
Eastern WUCC Tri-Chair

Cc: Mr. Justin Milardo, Connecticut DPH (for posting)

Eastern Region
Water Utility Coordinating Committee



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Patrick Bernardo, Tri-Chair
Patrick.bernardo@suez-na.com
856-718-7003

Samuel Alexander,
Recording Secretary
Samuel.alexander@neccog.org
860-774-1253

August 3, 2016

Eastern WUCC Members

RE: Review of Draft Preliminary Water Supply Assessment

In accordance with CGS 25-33g, the Eastern Connecticut Water Utility Coordinating Committee (WUCC) has prepared a draft Preliminary Water Supply Assessment ("Preliminary Assessment"). The next WUCC meeting is scheduled for August 10, 2016, and a discussion of the preliminary draft will transpire during the meeting. If you would like to receive a copy prior to the meeting, please contact the WUCC officers listed on this letterhead.

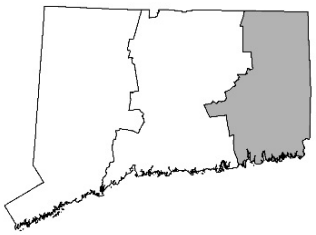
Very Truly Yours,

Robert Congdon
Eastern Region WUCC Tri-Chair

Mark Decker
Eastern Region WUCC Tri-Chair

Patrick Bernardo
Eastern WUCC Tri-Chair

Eastern Region
Water Utility Coordinating Committee



August 11, 2016

Via Electronic Mail

To: State Agency Representatives:

Mr. Rob Klee, CT DEEP, Commissioner
Ms. Corinne Fitting, CT DEEP
Ms. Melissa Czarnowski, CT DEEP
Mr. Rob Hust, CT DEEP
Mr. Michael Sullivan, CT DEEP

Dr. Raul Pino, CT DPH, Commissioner
Ms. Lori Mathieu, CT DPH
Mr. Eric McPhee, CT DPH
Mr. Justin Milardo, CT DPH
Mr. Rich Iozzo, CT DPH

Mr. Benjamin Barnes, CT OPM, Secretary
Mr. Bruce Wittchen, CT OPM
Mr. Eric Lindquist, CT OPM
Mr. Matt Pafford, CT OPM

Mr. Arthur House, CT PURA, Chairman
Mr. Nicholas Neeley, CT PURA
Ms. Gail Lucchina, CT PURA

Robert Congdon, Tri-Chair
congdon@preston-ct.org
860-887-5581 Ext.105

Mark Decker, Tri-Chair
MarkDecker@npumail.com
860-823-4168

Patrick Bernardo, Tri-Chair
Patrick.bernardo@suez-na.com
856-718-7003

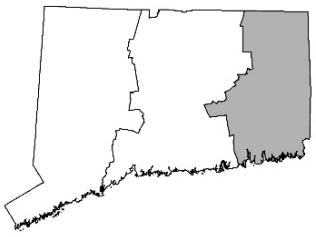
Samuel Alexander,
Recording Secretary
Samuel.alexander@neccog.org
860-774-1253

RE: Consultation on Draft Preliminary Water Supply Assessment

In accordance with CGS 25-33g, the Eastern Connecticut Water Utility Coordinating Committee (WUCC) has prepared a rough draft of its Preliminary Water Supply Assessment ("Preliminary Assessment") for the Eastern Connecticut Public Water Supply Management Area (PWSMA). CGS 25-33g(a) requires that the WUCC prepare this document in consultation with the Commissioner of Public Health, the Commissioner of Energy and Environmental Protection, the Secretary of the Office of Policy and Management, and the Public Utilities Regulatory Authority. A copy of the rough draft is attached.

Please be advised that this document has not yet been approved by the WUCC for public release. At this time, we ask that your agencies begin reviewing this document to provide consultation to the Eastern WUCC. A more complete version of this document will be released in the next few weeks that will be provided your agencies. The next WUCC meeting is scheduled for September 14, 2016, and it is anticipated that the Preliminary Assessment will be approved for public review and comment at that time. Therefore, please provide any preliminary comments prior to that date.

Eastern Region
Water Utility Coordinating Committee



The public comment period is anticipated to extend until late October, with final comments being necessary from members and your agencies prior to the end of November. Please provide comments via electronic mail to the Officers at the email addresses listed above, via mail at the mailing address of the Recording Secretary listed below, or by attendance at our WUCC meetings. If you have any questions, please do not hesitate to contact the WUCC officers or our consultant, Mr. Scott Bighinatti of Milone & MacBroom, Inc., at 203-271-1773 or sbighinatti@mminc.com.

Thank you for the continued attendance of your agencies at one or more of the monthly WUCC meetings in each region. We look forward to hearing your thoughts and concerns. For up to date information regarding the WUCC process, please visit the DPH website at http://www.ct.gov/dph/wucc.

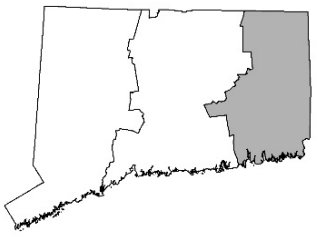
Very Truly Yours,

Robert Congdon
Eastern Region WUCC Tri-Chair

Mark Decker
Eastern Region WUCC Tri-Chair

Patrick Bernardo
Eastern WUCC Tri-Chair

Eastern Region
Water Utility Coordinating Committee



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Samuel Alexander,
Recording Secretary
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860-774-1253

August 12, 2016

Via Electronic Mail

To: Eastern WUCC Members and Interested Parties

RE: Notice of Exclusive Service Area Process Subcommittee

Please be advised that at its August 10, 2016 meeting, the Eastern Water Utility Coordinating Committee (WUCC) voted to organize an Exclusive Service Area (ESA) Process subcommittee. The subcommittee is headed by the following Eastern WUCC members: Mr. Robert Congdon, Town of Preston; Mr. Patrick Bernardo, Town of Putnam/SUEZ; Mr. Josh Cansler, Southeastern Connecticut Water Authority (SCWA); and Mr. Paul Deveny, Windham Water Works.

The ESA Process subcommittee has been charged with two specific tasks:

1. Reviewing and consolidating the process for establishing new ESAs and modifying existing ESAs as authorized by State Statute, State Regulation, and the Eastern WUCC Bylaws into an straightforward guidance document that will be added to the Work Plan; and

2. Preparation of declaration forms and scoring rubrics which will be used by WUCC members to vet utility and municipal ESA claims.

The ESA Process Subcommittee will hold its first meeting/workshop at 1:30 PM on August 31, 2016. The meeting/workshop will take place at the SCWA office, 1649 Route 12, Gales Ferry, CT 06335. The meeting/workshop is open to the public. The goal of the first meeting/workshop is to develop a draft declaration form which can be presented to WUCC members for review and comment at the September 14, 2016 regular meeting.

For up to date information regarding the WUCC process, please visit the DPH website at http://www.ct.gov/dph/wucc.

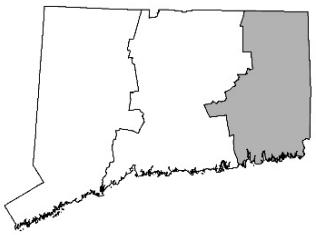
Very Truly Yours,

Robert Congdon
Eastern Region WUCC Tri-Chair

Mark Decker
Eastern Region WUCC Tri-Chair

Patrick Bernardo
Eastern WUCC Tri-Chair

Eastern Region
Water Utility Coordinating Committee



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856-718-7003

Samuel Alexander,
Recording Secretary
Samuel.alexander@neccog.org
860-774-1253

August 30, 2016

Eastern WUCC Members
Consulting State Agencies

RE: Review of Draft Preliminary Water Supply Assessment

In accordance with CGS 25-33g, the Eastern Connecticut Water Utility Coordinating Committee (WUCC) has prepared a final draft Preliminary Water Supply Assessment ("Preliminary Assessment"). The next WUCC meeting is scheduled for September 14, 2016, and a discussion of the final draft and a vote to send the document out to public review will transpire during the meeting. If you would like to receive a copy prior to the meeting, please contact the WUCC officers listed on this letterhead.

Very Truly Yours,

Robert Congdon
Eastern Region WUCC Tri-Chair

Mark Decker
Eastern Region WUCC Tri-Chair

Patrick Bernardo
Eastern WUCC Tri-Chair

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Raul Pino, M.D., M.P.H.
Commissioner

Dannel P. Malloy
Governor

Nancy Wyman
Lt. Governor

September 8, 2016

Via Electronic Mail

To: Eastern Water Utility Coordinating Committee (WUCC) Representatives:
Robert Congdon, Tri-Chair
Mark Decker, Tri-Chair
Patrick Bernardo, Tri-Chair
Samuel Alexander, Recording Secretary

RE: Consultation on Draft Preliminary Water Supply Assessment

The Department of Public Health received the Eastern WUCC's Draft Preliminary Water Supply Assessment on August 11, 2016 and would like to thank the Eastern WUCC representatives and Milone & MacBroom, Inc. for their efforts. The Department reviewed the Assessment and acknowledges that all components outlined in the Regulations of Connecticut State Agencies (RCSA) Section 25-33h-1(d)(A) have been included. The Department offers the following recommendations to further enhance this valuable Assessment:

- Section 4.0: The heat maps related to non-community public water supply density that are currently part of the assessment are a great tool. The Department believes that it would be beneficial to expand on those maps to include concepts such as capacity, water quality (including areas with known contamination) and water quantity issues. Combining known capacity or water quality issues with the location of non-community sources will help to highlight areas with the greatest need of public drinking water infrastructure expansion.

- Section 6.3: The Department recommends including a regional source protection discussion to more broadly capture the needs in Eastern Connecticut. It can be difficult to identify larger areas of need when the focus is solely on individual public water systems.

Thank you again for your work on the Water Supply Assessment. If you would like to discuss the Department's suggestions please feel free to contact Lori Mathieu of my staff at 860-509-7333.

Sincerely,

Raul Pino, M.D., M.P.H.
Commissioner

Keeping Connecticut Healthy
DPH
Connecticut Department of Public Health

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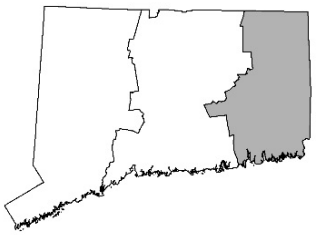
Hartford, Connecticut 06134-0308
www.ct.gov/dph
Affirmative Action/Equal Opportunity Employer

Eastern Region
Water Utility Coordinating Committee



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856-718-7003

Samuel Alexander,
Recording Secretary
Samuel.alexander@neccog.org
860-774-1253

September 15, 2016

Via Electronic Mail

To: Eastern WUCC Members
Consulting State Agencies
Interested Parties

RE: Preliminary Water Supply Assessment

In accordance with CGS 25-33g, the Eastern Connecticut Water Utility Coordinating Committee (WUCC) has prepared a Preliminary Water Supply Assessment ("Preliminary Assessment") for the Eastern Connecticut Public Water Supply Management Area (PWSMA). An electronic copy of the document may be found online at the WUCC website http://www.ct.gov/dph/wucc under the Eastern WUCC section. In addition, a hard copy of the document may be reviewed at the offices of the Northeastern Connecticut Council of Governments and the Southeastern Connecticut Council of Governments during normal business hours. The Eastern WUCC would like to thank each Council of Governments for agreeing to provide this service.

At this time, the Eastern WUCC is requesting review and comment on the Preliminary Assessment from all interested persons. Discussion of comments received to date will be discussed at the next Eastern WUCC meeting scheduled for October 12, 2016 at the Southeastern Connecticut Council of Governments. The public comment period closes on October 27, 2016 and any final comments on the document from the public must be received by the end of that day.

Please provide comments via electronic mail to the Officers at the email addresses listed above, via mail at the mailing address of the Recording Secretary listed below, or by attendance at the October 12th WUCC meeting. If you have any questions, please do not hesitate to contact the WUCC officers or our consultant, Mr. Scott Bighinatti of Milone & MacBroom, Inc., at 203-271-1773 or sbighinatti@mminc.com.

We look forward to hearing your thoughts and comments on this document. For current information regarding the WUCC process, please visit the DPH website at http://www.ct.gov/dph/wucc.

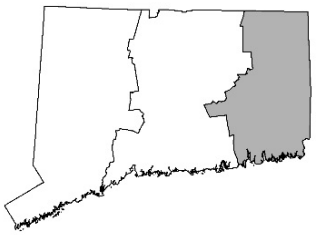
Very Truly Yours,

Robert Congdon
Eastern Region WUCC Tri-Chair

Mark Decker
Eastern Region WUCC Tri-Chair

Patrick Bernardo
Eastern WUCC Tri-Chair

Eastern Region
Water Utility Coordinating Committee



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Samuel Alexander,
Recording Secretary
Samuel.alexander@neccog.org
860-774-1253

September 19, 2016

To: Council of Government WUCC Members and Constituent Municipalities

RE: Request for Information
Final Water Supply Assessment
Eastern Region WUCC

The Eastern Region Water Utility Coordinating Committee (WUCC) has recently issued its Preliminary Water Supply Assessment (WSA) for public review and comment. The WSA is a review of the existing public water supply systems and identifies current conditions, needs, issues, and deficiencies related to the provision of public water supply in the region.

As discussed at the meeting on September 14, the Eastern Region WUCC is in need of input from all the municipalities in the Eastern Region to help inform the WSA. The Council of Government WUCC members have been asked to reach out to their constituent municipalities to provide feedback critical to the process. Specifically, we are hoping to address the following questions:

1. Is the creation of a public water system desired in any village centers (or other areas where there is a concentration of residential or commercial uses) due to high development density and challenging lot sizes, perhaps coupled with a desire for nominal growth?

2. Is there a desire to create a new public water system or expand an existing system in your municipality to address water quality concerns?

3. Do you know of any examples of water systems in need or experiencing problems, are in need of assistance, or have unmet needs?

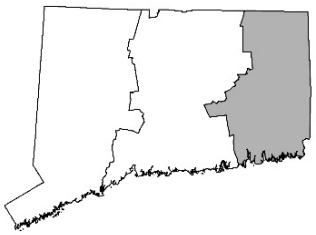
4. Where is the movement of water necessary from areas of surplus to areas of need?

5. Are there areas in your municipality where additional water supply is necessary (due to reduced available water, reduced yields, etc.)?

6. Do you know of any areas in your municipality where it may be prudent to eliminate small public water systems where nearby expansion of a larger system has occurred?

7. Is there a general desire to reduce the overall number of small water systems in your municipality?

Eastern Region
Water Utility Coordinating Committee



8. Can you identify any potential interconnections or main extensions that could address any of the challenges listed above?

9. Have needed water system expansion or upgrades within your municipality been delayed due to lack of funding?

10. Please explain any other issues related to public water supply that you believe that the WUCC should consider as part of this planning process.

If you could provide a written summary of the information via electronic mail it would be very helpful to the development of the WSA. Alternatively, you can provide your answers online by typing the following into your web browser: bit.ly/EWUCC1. We encourage you to consider the water supply needs of your municipality. Thank you for your time and effort assisting us in this process.

If you have any questions, please feel free to contact any of the Tri-Chairs at the phone numbers or email addresses listed above, or the Eastern WUCC's consultant, Mr. Scott Bighinatti of Milone & MacBroom, Inc., at 203-271-1773 or sbighinatti@mminc.com. You may also discuss your concerns with us at our next regularly scheduled Eastern WUCC meeting to be held on October 12, 2016 at the Southeastern Connecticut Council of Governments office, 5 Connecticut Avenue, Norwich, CT at 1:00 PM. A Town-by-town discussion of issues, needs, and deficiencies related to the provision of public water supply in the region is proposed to occur at the meeting.

Additional information pertaining to the Eastern Region Water Utility Coordinating Committee, including past and future meeting agendas, meeting minutes, correspondence, schedules, mapping, and publications may be found at the following web site: http://www.ct.gov/dph/wucc. We look forward to your participation in this important process.

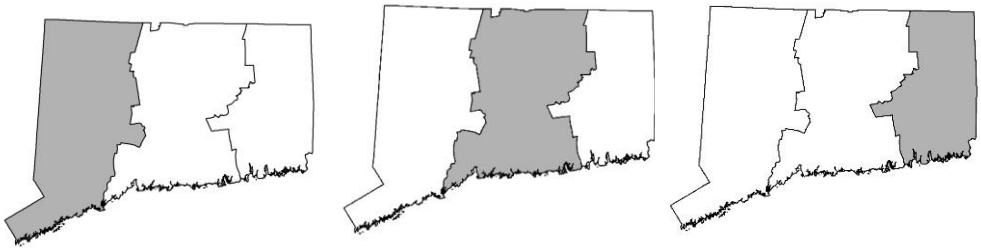
Very Truly Yours,

Robert Congdon
Eastern Region WUCC Tri-Chair

Mark Decker
Eastern Region WUCC Tri-Chair

Patrick Bernardo
Eastern WUCC Tri-Chair

Connecticut Water Utility Coordinating Committees



October 4, 2016

Rivers Alliance of Connecticut
P.O. Box 1797
7 West Street
Litchfield, CT 06759

This letter is in response to the formal communication dated September 12, 2016 to the Connecticut Water Utility Coordinating Committees (WUCCs) and others regarding the Coordinated Water System Planning (CWSP) currently underway. The primary concern raised in the letter is the timing within the WUCC process for consideration of environmental issues. The CWSP consists of the individual water system plans of each public water system and an Areawide supplement, which consists of a water supply assessment; exclusive service area boundaries; an integrated report; and an executive summary. Respectively, these components must be completed within 6, 12, 24, and 24 months following convening of the WUCC.

As required by Section 25-33h(d)(C) of the Regulations of Connecticut State Agencies (RCSA), the Integrated Report in each respective WUCC region must provide an overview of individual public water systems within the management area and address area-wide water supply issues, concerns, and needs while promoting cooperation among the public water systems. Additionally, RCSA Section 25-33h(d)(C)(ix) requires "*Consideration of the potential impacts of the plan on other uses of water resources, including water quality, flood management, recreation, hydropower, and aquatic habitat issues.*"

The timing of the consideration of potential impacts of the Coordinated Water System Plan is based on a progression of information. The first step in this planning process is to report on the existing status of water supply, including an inventory of current suppliers, sources, systems, and service areas. This first step is documented in the Water Supply Assessment.

The second phase of coordinated planning effort is the determination of exclusive service areas (ESAs), wherein water providers declare their intent and desire to provide service as well as details on the manner in which they intend to do so. As part of the declaration process, the declaring entity must describe how it will provide service, including identification of potential future supply sources. The designation of an ESA to a water provider does not bring with it any right or authority to develop new supply sources, nor does it permit a water provider to transfer water from one system to another. Such actions may only occur within the regulatory permitting and approval framework that is in existence today.

WESTERN REGION WUCC
Russell Posthauer, Jr., Co-Chair
Russellposthauer@ccaengineering.com
203-775-6207

Daniel Lawrence, Co-Chair
DLawrence@aquarionwater.com
203-362-3055

David Banker, Recording Secretary
DBanker@themdc.com
860-278-7850 Ext. 3650

CENTRAL REGION WUCC
David Radka, Co-Chair
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860-669-8630

Bart Halloran, Co-Chair
bhalloran@themdc.com
860-726-7810

Brendan Avery,
Recording Secretary
bavery@hazardvillewater.com

EASTERN REGION WUCC
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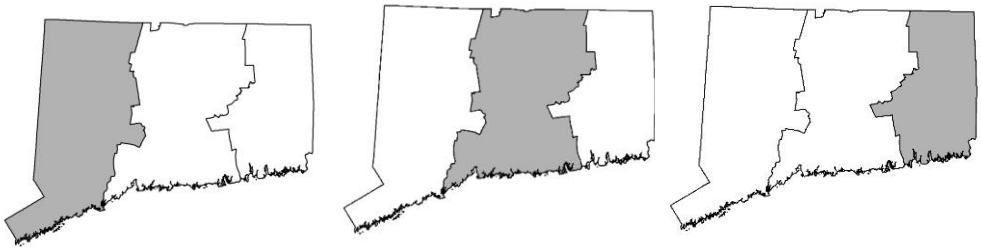
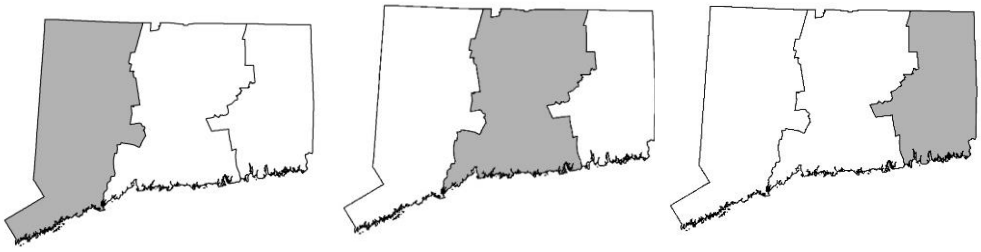


ESAs have been designated across much of the state for nearly 30 years, with large areas where service has not been needed or provided. Land development in Connecticut is regulated independently by each of the 169 municipalities through their respective planning and zoning regulations. Since much of the state is zoned for rural residential use with large lot requirements, it is possible that public water service may never occur in such locations.

The third phase of coordinated planning takes place in the preparation of the Integrated Report, wherein public water suppliers forecast future demand as well as the anticipated timing and need of additional supplies. Only then will the future anticipated conditions be defined to the point where potential impacts of the Coordinated Water System Plan on other uses of water resources can be fully evaluated. As part of the Integrated Report, potential impacts on resources will be delineated by river and/or sub-regional drainage basin, both for the purpose of evaluating identified future supply sources as well as to identify new areas for potential development of future regional supply sources. The data sources that will inform this evaluation is likely to include information from individual utility Water Supply Plans, historical regional water supply planning documents, geologic mapping prepared by the State of Connecticut and the U.S. Geological Survey, geographic information system data available from the Department of Energy and Environmental Protection (DEEP), reports available from the Office of Policy and Management (OPM), streamflow rates, natural diversity database information, location of tidal areas and significant recreational uses, and the list of impaired water bodies in Connecticut. Additionally, the following information is anticipated to be reviewed to identify potential issues associated with development of future supplies:

- USGS *StreamStats* information for 7Q10 (~99% duration) flows and specific bioperiod flows;
- Final, draft, or possible streamflow classifications per the Streamflow Standards and Regulations;
- The 2014 (or more recent, if available) DEEP *Integrated Water Quality Report* for water quality;
- 2003 DPH Source Water Assessment Reports;
- Precipitation records from the National Weather Service and/or State agencies;
- DEEP diversion permit restrictions;
- Existing flow management plans;
- Existing source management plans;
- Instream flow studies that have been completed;
- FERC hydropower permits and submitted applications;
- Current wasteload allocation information from DEEP;
- Updated county-wide flood insurance studies;
- Reservoir dam information from water utilities and DEEP;
- Local, regional, and statewide plans of conservation and development; and
- Open space and recreational plans.

The potential implications of the above items on existing and potential future water supplies will be considered, as well as the impacts of existing and potential future water supplies on aquatic resources. For example, new supply sources may be needed to counteract the effects of streamflow releases, and interconnections may be needed to overcome potential supply deficits. The anticipated work in the Integrated Report will be of a planning nature and will not replace



the detailed site-specific analysis that would be required in support of developing a new groundwater or surface water supply source through the water diversion permitting process administered by DEEP, or permits potentially required by the Army Corps of Engineers related to impacts to wetlands. This planning effort is expected to result in prioritization of potential projects to enhance regional public water supply efforts.

The Preliminary Water Supply Assessments in all three regions are currently available for public review. The regulations are clear on what must be included in the Water Supply Assessment, including the requirement stated in Section 25-33h-1(d)(2)(A) to "*evaluate water supply conditions and problems within the public water supply management area*." The regulation goes on to define the specific conditions and problems that must be addressed, making it clear that the regulation refers to those in the realm of providing safe drinking water. While the officers share the River Alliance's concern for our environment, we do not agree with the interpretation that the "*evaluation of water supply conditions and problems*" referenced in the regulations equates to impacts on the environment as a result of current and historic public water supply throughout the state. Consideration of environmental issues will appropriately occur as the Coordinated Water System Planning process proceeds, following the identification of future service areas and future anticipated water supplies.

We appreciate your continued involvement and look forward to a rigorous planning process over the next two years.

Very Truly Yours,

Russel Posthauer
Western WUCC Co-Chair

Daniel Lawrence
Western Region Co-Chair

David Radka
Central Region Co-Chair

Bart Halloran
Central Region Co-Chair

Robert Congdon
Eastern Region Tri-Chair

Mark Decker
Eastern Region Tri-Chair

Patrick Bernardo
Eastern Region Tri-Chair

APPENDIX B

EASTERN WUCC MEMBER LIST

WUCC Membership

Per RCSA Sec. 25-33h-1(b):

(6) Eligible WUCC members are as follows:

(A) One representative of each public water system which has either:

(i) A source of supply within the management area which is a source of potable water approved by the department, including reservoirs, wells, other water bodies and associated watershed land, or

(ii) A service area within the management area including areas where service is currently provided to customers or where a public water system has the authority to provide such service as determined by legal rights such as legislative franchises, municipal charters, or interlocal agreements for the sale of water.

(B) One representative of each regional planning agency serving at least one municipality within the management area as elected by majority vote of the chief elected officials of the municipalities that are members of such regional planning agency.

Eastern WUCC

RCSA Sec. 25-33h-1(b)(6)(A)(i): Membership as a result of a reservoir or associated watershed land in a management area

PWS_ID	PWS_NAME
CT0580011	JEWETT CITY WATER COMPANY
CT0950011	NEW LONDON DEPT. OF PUBLIC UTILITIES
CT1040011	NORWICH PUBLIC UTILITIES
CT0690031	POWDREL & ALEXANDER DIVISION, CRYSTAL
CT1330021	SPRAGUE WATER & SEWER AUTHORITY
CT1630011	WINDHAM WATER WORKS

Eastern WUCC

RCSA Sec. 25-33h-1(b)(6)(A)(i): Membership as a result of a well or associated aquifer protection area land in a management area

PWS_ID	PWS_NAME
CT1370011	Aquarion Water Co Of CT - Mystic System
CT0280011	Colchester Sewer & Water Commission
CT0690011	CWC - Crystal Water Company
CT0690011	CWC - Crystal Water Company
CT1090081	CWC - Crystal Water Company - Plainfield Division
CT1410011	CWC - Crystal Water Company - Thompson Division
CT1090031	CWC - Gallup Water Service, Inc
CT0450011	East Lyme Water & Sewer Commission
CT0450011	East Lyme Water & Sewer Commission
CT0580011	Jewett City Water Company
CT0720031	Ledyard WPCA - Highlands System
CT1160011	Putnam Water Pollution Control Authority
CT1020021	SCWA - North Stonington
CT0720041	SCWA - Tower Division (Twr)
CT1330021	Sprague Water & Sewer Authority

Eastern WUCC

RCSA Sec. 25-33h-1(b)(6)(A)(ii): Membership as a result of a service area within the management area including areas where service is currently provided to customers

PWS_ID	PWS_NAME
CT0869131	261 & 263-271 ROUTE 163
CT0710021	AQUARION WATER CO OF CT-LEBANON DIVISION
CT1370011	AQUARION WATER CO OF CT-MYSTIC
CT1370071	ARLINGTON ACRES MANUFACT HOUSE COMM, LLC
CT1099141	ARNIO DRIVE LLC
CT0720101	ASH WATER COMPANY, LLC
CT0030011	ASHFORD HILLS APARTMENTS
CT0030041	BIRCH HILLS CONDOMINIUMS
CT0190051	BROOKLYN MANOR
CT1699011	BROOKWOOD APARTMENTS
CT0229031	CAMPBELL HEIGHTS APARTMENTS - SYSTEM #2
CT0710011	CAREFREE HOMEOWNERS ASSOCIATION
CT0248011	CHAPLIN WOODS CONDOMINIUMS
CT1378011	CLASSEE WATER SYSTEM - LATIMER POINT
CT0286011	COLCHESTER COMMONS
CT0280011	COLCHESTER SEWER & WATER COMMISSION
CT0590071	COLONIAL EFFICIENCY APARTMENTS
CT0580061	CONNOLLYS TRAILER PARK
CT0690071	CONRADS PARK
CT0690061	COUNTRY ACRES PARK
CT1120041	COUNTRY MANOR
CT1040061	COUNTRYSIDE DRIVE ASSOCIATION
CT0690141	CRANBERRY BOG APARTMENTS
CT1210021	CRYSTAL LAKE CONDOMINIUMS
CT0670331	CTWC - AMSTON LAKE DIVISION
CT0030031	CTWC - ASHFORD PARK DIVISION
CT1698051	CTWC - CORNFIELD POINT DIV.
CT1090081	CTWC - CRYSTAL WATER CO, PLAINFIELD DIV
CT1410011	CTWC - CRYSTAL WATER CO, THOMPSON DIV
CT0690011	CTWC - CRYSTAL WATER COMPANY
CT0580021	CTWC - GALLUP WATER -COUNTRY MOBILE DIV.
CT1090031	CTWC - GALLUP WATER SERVICE, INC.
CT0711071	CTWC - LEBANON ELDERLY DIV.
CT0030411	CTWC - POMPEY HOLLOW DIVISION
CT0280071	CTWC - PONEMAH VILLAGE
CT1470011	CTWC - SDC WATER
CT0580041	CTWC - SHORELINE REG-BAY MOUNTAIN
CT1370051	CTWC - SHORELINE REGION-MASONS ISLAND
CT0282001	CTWC - WESTCHESTER VILLAGE
CT0860051	DEER RUN SUPPLY

CT1631031 DOUGLAS MANOR
CT0450011 EAST LYME WATER & SEWER COMMISSION
CT0037001 EVANGELICAL CHRISTIAN CENTER - MAIN
CT0690051 FALL BROOK MOBILE HOME PARK
CT1699081 FAWN RIDGE ASSOCIATION INC.
CT0861111 FOX LAUREL MOBILE HOME PARK, LLC
CT0866301 FREEDOM VILLAGE ELDERLY HOUSING
CT0280041 GAIA GARDENS
CT1360074 GIBSON HILL PARK
CT0199091 GORMAN ROAD APARTMENTS
CT0590051 GROTON LONG POINT ASSOCIATION
CT0590011 GROTON UTILITIES
CT1691171 HYDE SCHOOL - SYSTEM #2 (RESIDENTIAL)
CT0860191 INDEPENDENCE VILLAGE ELDERLY HOUSING
CT0860141 JENSENS, INC. MARINA COVE RESIDENTIAL
CT0580051 JEWETT CITY WATER CO., S & W SYSTEM
CT0730021 JEWETT CITY WATER CO-HILL-N-DALE
CT0580011 JEWETT CITY WATER COMPANY
CT1094201 JUMBO APARTMENTS
CT1419071 JUSTICE RESOURCE INSTITUTE, INC.
CT0860041 KITEMAUG ORCHARD ASSOCIATION, INC.
CT0280051 KNOB HILL CONDOMINIUMS
CT0280061 KNOB HILL CONDOMINIUMS, WELL #5
CT0220191 KNOLLBROOK VILLAGE ELDERLY HOUSING
CT0860091 LAKESIDE MANOR APARTMENTS
CT0580031 LAKEVIEW MOBILE HOME PARK
CT0727051 LEDYARD WPCA, GALES FERRY SYSTEM
CT1140021 LINCOLN PARK ELDERLY HOUSING
CT0730031 LISBON MOBILE HOMES
CT0220011 LONGVIEW ESTATES, LLC
CT1410051 MARIANAPOLIS PREP SCHOOL - ST JOHNS
CT1419081 MARIANAPOLIS PREP SCHOOL -ST ALBERTS
CT0030061 MAR-LEA PARK APTS
CT0723011 MASHANTUCKET PEQUOT TRIBAL NATION
CT1160021 MATULAITIS NURSING HOME
CT0861021 MEADOWS APARTMENTS
CT0864011 MONTVILLE WATER SUPPLY
CT1090221 MOOSUP GARDEN APARTMENTS
CT1099131 MOOSUP MANOR
CT1099181 MOOSUP POND TERRACE, LLC
CT0861051 MOUNTVIEW APARTMENTS
CT0950011 NEW LONDON WATER DIVISION
CT0590031 NOANK FIRE DISTRICT
CT1021001 NORTHSTONE GARDENS
CT1040011 NORWICH PUBLIC UTILITIES
CT0860031 OAKDALE HEIGHTS ASSOCIATION, INC
CT0860171 OAKRIDGE GARDENS, LLC

CT0860211 OAKRIDGE VILLAGE
CT1090271 PICKETT ROAD APARTMENTS
CT1698041 PINECREST CONDOMINIUMS
CT1041001 PLEASURE VALLEY M.H.P. - SYSTEM #1
CT1041021 PLEASURE VALLEY M.H.P. - SYSTEM #2
CT1041031 PLEASURE VALLEY M.H.P. - SYSTEM #3
CT1120051 POMFRET SCHOOL
CT1140011 PRESTON PLAINS WATER COMPANY
CT1160011 PUTNAM WTR POLLUTION CONTROL AUTHORITY
CT1411041 QUINEBAUG MOBILE HOME PARK
CT0597021 ROGERS MOBILE HOME PARK - GROTON
CT1690021 ROSELAND TERRACE ASSOCIATION, INC.
CT0731031 ROUND HILL LLC - WELL #2
CT0731011 ROUND HILL LLC - WELL#1
CT1210011 SALEM MANOR CONDOMINIUMS, SYSTEM #1
CT1219111 SALEM MANOR CONDOMINIUMS, SYSTEM #2
CT0720011 SCWA, BARRETT DIVISION (BAR)
CT0869011 SCWA, BIRCHWOOD DIVISION (BWD)
CT1020011 SCWA, CEDAR RIDGE DIVISION
CT0860081 SCWA, CHESTERFIELD DIVISION
CT0727031 SCWA, CHRISWOOD DIVISION (CWD)
CT0720081 SCWA, GRAY FARMS DIVISION (GRF)
CT0860131 SCWA, HILLCREST DIVISION (HLC)
CT1370021 SCWA, LANTERN HILL DIVISION (LNH)
CT0720313 SCWA, LEDYARD CENTER DIVISION
CT0860021 SCWA, MOHEGAN DIVISION
CT0860011 SCWA, MONTVILLE DIVISION (MTV)
CT1020021 SCWA, NORTH STONINGTON DIVISION (NST)
CT0867101 SCWA, ROBIN HILL DIVISION (RBN)
CT0869121 SCWA, SEVEN OAKS (OAK)
CT0720041 SCWA, TOWER-FERRY VIEW DIVISION
CT1121131 SEELY - BROWN VILLAGE
CT1699061 SOLAIR RECREATIONAL LEAGUE - LOWER RIDGE
CT1330021 SPRAGUE WATER & SEWER AUTHORITY
CT0861251 ST. THOMAS MORE SCHOOL-MAIN SYSTEM
CT0868011 ST. THOMAS MORE SCHOOL-THE COVE
CT1360011 STERLING WATER SYSTEM
CT0866051 STONY BROOK MOBILE HOME PARK
CT1140471 STRAWBERRY PARK
CT1040091 SUNNY WATERS MOBILE HOME PARK
CT1120061 THE RECTORY SCHOOL
CT0867071 THOMPSON HILL WATER CO - BEECHWOOD ACRES
CT1410661 THOMPSON HILL WATER CO - PAULA LANE DIV
CT0731011 TUNNEL HILL MOBILE HOME PARK
CT0711001 VILLAGE HILL APARTMENTS
CT1479021 VOLUNTOWN HOUSING AUTHORITY
CT1520061 WATERFORD COUNTRY SCHOOL, INC.

CT1520071 WATERFORD WPCA
CT0280031 WESTCHESTER HILLS CONDOMINIUM ASSN.
CT1370031 WESTERLY WATER DEPT
CT0691011 WESTVIEW NURSING CARE & REHAB CTR, INC.
CT1090161 WESTVIEW TERRACE MOBILE HOME PARK
CT0598011 WHIPPLES MOBILE HOME PARK
CT1630011 WINDHAM WATER WORKS
CT1121011 WOODLAND APARTMENTS
CT0030051 WOODLAWN APARTMENTS, LLC
CT1690031 WOODSTOCK HOUSING AUTHORITY
CT1698011 WOODSTOCK MEADOWS CONDOMINIUM ASSN.
CT1630021 WYNDHAM PARK APARTMENTS

Eastern WUCC

RCSA Sec. 25-33h-1(b)(6)(A)(i): Membership as a result of a public water supply well in a management area

PWS_ID	PWS_NAME
CT1099234	10 PUTNAM ROAD
CT0530294	10 ROUTE 32 - FRANKLIN
CT1090154	1019 NORWICH ROAD
CT0530264	107 ROUTE 32
CT0691223	1075 NORTH MAIN STREET - KILLINGLY
CT1361033	1126 PLAINFIELD PIKE
CT1090104	127 NORWICH ROAD
CT1099214	137 NORWICH RD - VILLAGE COMMONS
CT0869104	1434 ROUTE 85
CT1140134	154 ROUTE 2 - PRESTON
CT1470044	17 BEACH POND ROAD
CT1020224	207 PROV-N LONDON TNPK - N STONINGTON
CT1021094	220 NORWICH / WESTERLY ROAD
CT0240094	237 WILLIMANTIC ROAD
CT0530334	260 ROUTE 32
CT1419074	292 RIVERSIDE DRIVE - THOMPSON
CT0727094	3 CENTER DRIVE
CT1378084	3175 GOLDSTAR HIGHWAY
CT1169044	32 - 44 NORWICH ROAD
CT0590234	345 GOLD STAR HIGHWAY - GROTON
CT1330044	36 MAIN STREET
CT0030314	362 ASHFORD CTR RD
CT1120034	37 PUTNAM ROAD
CT0081083	41 VILLAGE LANE OFFICE PARK
CT1021073	411C NORWICH WESTERLY RD
CT0130104	421 SALEM TNPK
CT0690174	430 LEDGE ROAD
CT0691132	474 PUTNAM PIKE
CT1099144	518 NORWICH ROAD - PLAINFIELD
CT1020454	563 PROVIDENCE-NEW LONDON TNPK
CT1099164	597 PUTNAM ROAD
CT0580104	598 VOLUNTOWN ROAD - GRISWOLD
CT0699203	610 WAUREGAN ROAD
CT0860434	627 NORWICH SALEM TURNPIKE
CT0580124	659 VOLUNTOWN ROAD - GRISWOLD
CT0229054	7 PLAINFIELD ROAD
CT0860484	712 RTE 163 - PA'S PIZZA & GEN STORE
CT1099134	720 NORWICH ROAD, LLC
CT0720344	758 COLONEL LEDYARD HIGHWAY
CT1410054	773 QUINEBAUG ROAD
CT0530074	7-ELEVEN #32517

CT1040104	7-ELEVEN #32524
CT1230044	8 PALMER ROAD - SCOTLAND
CT1378064	862 STONINGTON ROAD - STONINGTON
CT0530254	96 ROUTE 32
CT0130044	ACORN ACRES CAMPGROUND-SYSTEM 1: TENNIS
CT0130134	ACORN ACRES CAMPGROUND-SYSTEM 2: LAUNDRY
CT0130034	ACORN ACRES, INC.
CT0190014	AMERICAS BEST VALUE INN
CT1370064	AMERICA'S BEST VALUE INN
CT1330062	AMGRAPH PACKAGING INC.
CT1140164	AMOS LAKE BEACH - SYSTEM #1:PAVILION
CT1140014	AMOS LAKE BEACH-SYSTEM 2:CAMPGROUND WELL
CT0720194	ANCHOR BAPTIST CHURCH
CT1631214	APOLLO RESTAURANT AND PIZZA
CT0710021	AQUARION WATER CO OF CT-LEBANON DIVISION
CT1370011	AQUARION WATER CO OF CT-MYSTIC
CT1370071	ARLINGTON ACRES MANUFACT HOUSE COMM, LLC
CT1099141	ARNIO DRIVE LLC
CT0720101	ASH WATER COMPANY, LLC
CT0030024	ASHFORD DARI BAR
CT0030152	ASHFORD ELEMENTARY SCHOOL
CT0030011	ASHFORD HILLS APARTMENTS
CT0030034	ASHFORD MOTEL
CT0030054	ASHFORD PROFESSIONAL BUILDING
CT0720174	B.O.Q. INVESTMENT INC
CT0240014	BACH DOR CAFE
CT0221112	BETTER VAL-U SUPERMARKETS, INC.
CT1090314	BILLYS RESTAURANT & PIZZA
CT0030041	BIRCH HILLS CONDOMINIUMS
CT0030114	BRIALEE RV & TENT PARK
CT0190024	BROOKLYN COUNTRY CLUB/GOLF COURSE
CT0190051	BROOKLYN MANOR
CT0190104	BROOKLYN MARKET
CT0190254	BROOKLYN PIZZA RESTAURANT
CT0199073	BROOKLYN PROPERTIES, LLC
CT1140024	BROOKSIDE CAFE
CT1699011	BROOKWOOD APARTMENTS
CT1090522	BST SYSTEMS, INC.
CT1020444	BUDGET INN
CT1219053	BURNETT'S COUNTRY GARDENS
CT0869033	C E MURPHY SCHOOL
CT1140034	CALVARY BAPTIST CHURCH
CT0220014	CALVARY CHAPEL
CT0860624	CALVARY CHAPEL (ANNEX) SOUTHEASTERN CT
CT0860364	CALVARY CHAPEL OF SE CT (CHURCH)
CT0030091	CAMP CONNRI
CT0390254	CAMP NAHACO - DINING HALL CAMP

CT0450024	CAMP NIANTIC BY THE ATLANTIC:SYSTEM 1
CT0860614	CAMP OAKDALE BALLFIELDS
CT0860594	CAMP OAKDALE LARGE PAVILLION
CT1020024	CAMP WIGHTMAN - CAMPBELL WELL
CT1020034	CAMP WIGHTMAN - CATHCART WELL
CT1020044	CAMP WIGHTMAN - PECK WELLS 1 & 2
CT1690024	CAMP WOODSTOCK - BOAT HOUSE WELL
CT1690444	CAMP WOODSTOCK - NEW DINING WELL
CT1690044	CAMP WOODSTOCK - ROSKIN WELL
CT1690054	CAMP WOODSTOCK - UPPER MAIN CAMP
CT1690034	CAMP WOODSTOCK / BATH SHOWER WELL
CT0229031	CAMPBELL HEIGHTS APARTMENTS - SYSTEM #2
CT0580094	CAMPERS WORLD (EDMOND RD. WELL)
CT0580014	CAMPERS WORLD (NOWAKOWSKI RD. WELL)
CT0229013	CANTERBURY CHILDRENS ACADEMY
CT0220114	CANTERBURY COMMONS
CT0220102	CANTERBURY ELEMENTARY SCHOOL
CT0220084	CANTERBURY MUNICIPAL OFFICES
CT0220104	CANTERBURY PLAINS MALL
CT0710011	CAREFREE HOMEOWNERS ASSOCIATION
CT0240243	CARELOT CHILDRENS CENTER
CT1020054	CEDAR PARK INN
CT1690064	CHAMBERLAIN LAKE CAMPGROUND
CT0240064	CHAPLIN CONGREGATIONAL CHURCH
CT0240233	CHAPLIN ELEMENTARY SCHOOL
CT0240044	CHAPLIN PARK
CT0248044	CHAPLIN SENIOR CENTER
CT0240054	CHAPLIN TOWN HALL
CT0248011	CHAPLIN WOODS CONDOMINIUMS
CT0390064	CHARLIE BROWN CAMPGROUND
CT0399034	CHARLIE BROWN CAMPGROUND-REC HALL
CT0240024	CHA-WI-MA CO-OP
CT0860404	CHESTERFIELD LODGE
CT0131003	CHILDRENS DENTAL ASSOCIATION
CT0590214	CHRIST UNITED METHODIST CHURCH
CT1231024	CHRISTIAN FELLOWSHIP CHURCH OF SCOTLAND
CT1470014	CHUCKYS MOBIL
CT1040054	CHURCH OF JESUS CHRIST OF LATTER DAY SAI
CT0030134	CHURCH OF LATTER DAY SAINTS
CT0590114	CHURCH OF LATTER DAY SAINTS
CT0691234	CHURCH OF THE NAZARINE
CT1470174	CIRCLE "C" CAMPGROUND - WELL #1
CT1470184	CIRCLE "C" CAMPGROUND - WELL #3
CT1020064	CIRCLE PARK II
CT1140204	CITGO GAS STATION - PRESTON
CT1479024	CLAUDIAS RESTAURANT & TOWN LIQUOR STORE
CT1630144	CLICK INC.

CT0280014	COLCHESTER BIBLE BAPTIST CHURCH
CT0286011	COLCHESTER COMMONS
CT0280011	COLCHESTER SEWER & WATER COMMISSION
CT1219103	COLONIAL CENTER
CT0590071	COLONIAL EFFICIENCY APARTMENTS
CT1169033	COLONIAL PLAZA CONDOMINIUM ASSN, INC.
CT0590253	COMCAST CABLEVISION
CT0390094	CONGREGATIONAL CHURCH OF EASTFORD
CT1521004	CONNECTICUT HUMANE SOCIETY - WATERFORD
CT0580061	CONNOLLYS TRAILER PARK
CT0690071	CONRADS PARK
CT0860414	CORNERSTONE BAPTIST CHURCH
CT0690061	COUNTRY ACRES PARK
CT1090324	COUNTRY FARMS
CT1120041	COUNTRY MANOR
CT1470194	COUNTRYSIDE CAMPGROUND
CT1040061	COUNTRYSIDE DRIVE ASSOCIATION
CT1370144	COVE LEDGE INN
CT0190264	COZY CORNER RESTAURANT
CT1691163	CRABTREE & EVELYN, LTD.
CT0690141	CRANBERRY BOG APARTMENTS
CT1210021	CRYSTAL LAKE CONDOMINIUMS
CT1370034	CT BEHAVIORAL HEALTH (UNITED FAMILY)
CT0670331	CTWC - AMSTON LAKE DIVISION
CT0030031	CTWC - ASHFORD PARK DIVISION
CT1698051	CTWC - CORNFIELD POINT DIV.
CT1090081	CTWC - CRYSTAL WATER CO, PLAINFIELD DIV
CT1410011	CTWC - CRYSTAL WATER CO, THOMPSON DIV
CT0690011	CTWC - CRYSTAL WATER COMPANY
CT0580021	CTWC - GALLUP WATER -COUNTRY MOBILE DIV.
CT1090031	CTWC - GALLUP WATER SERVICE, INC.
CT0711071	CTWC - LEBANON ELDERLY DIV.
CT0030411	CTWC - POMPEY HOLLOW DIVISION
CT0280071	CTWC - PONEMAH VILLAGE
CT1470011	CTWC - SDC WATER
CT0580041	CTWC - SHORELINE REG-BAY MOUNTAIN
CT0282001	CTWC - WESTCHESTER VILLAGE
CT0691244	CUMBERLAND FARMS STORE #4632
CT1169043	DARIGAN-BARR, INC.
CT0860424	DAVIDS PLACE
CT0280044	DAY POND S.P./BEACHWELL
CT0860051	DEER RUN SUPPLY
CT1370014	DENISON PEQUOTSEPOS NATURE CENTER, INC.
CT0581034	DOLLAR GENERAL - GRISWOLD
CT1631031	DOUGLAS MANOR
CT0221122	DR. HELEN BALDWIN SCHOOL
CT1419073	DRAKE PETROLEUM/XTRAMART OFFICE

CT1140074	DUNKIN DONUTS
CT1020484	DUNKIN DONUTS (ROUTE 2)
CT0530274	DW TRANSPORT & LEASING, INC.
CT0450011	EAST LYME WATER & SEWER COMMISSION
CT0631213	EASTCONN CENTRAL ADMINISTRATION
CT0309043	EASTCONN EARLY CHILDHOOD CENTER
CT0390084	EASTFORD BAPTIST CHURCH
CT0399044	EASTFORD BAPTIST CHURCH- ACTIVITY CENTER
CT0390212	EASTFORD ELEMENTARY SCHOOL
CT1370024	ELMRIDGE GOLF COURSE
CT0719144	EVA, LLC
CT0037001	EVANGELICAL CHRISTIAN CENTER - MAIN
CT0039023	EVANGELICAL CHRISTIAN CENTER -REC CENTER
CT1690084	EVANGELICAL COVENANT CHURCH
CT0690051	FALL BROOK MOBILE HOME PARK
CT1699081	FAWN RIDGE ASSOCIATION INC.
CT1120402	FIBEROPTICS TECHNOLOGY (NEW)
CT1120443	FIBEROPTICS TECHNOLOGY (OLD)
CT0710044	FIRE SAFETY COMPLEX
CT0719154	FIRST BAPTIST CHURCH OF LEBANON
CT0220034	FIRST CONGREGATIONAL CHURCH
CT0710054	FIRST CONGREGATIONAL CHURCH OF LEBANON
CT1630024	FIRST CONGREGATIONAL CHURCH OF WINDHAM
CT1691153	FIRST CONGREGATIONAL CHURCH OF WOODSTOCK
CT1140154	FLEMINGS CENTER
CT1410034	FOUR CORNERS PUB
CT0690344	FOUR GS PIZZERIA
CT0861111	FOX LAUREL MOBILE HOME PARK, LLC
CT0530343	FRANKLIN COMMONS
CT0530162	FRANKLIN ELEMENTARY SCHOOL
CT0530314	FRANKLIN MOBIL
CT0530234	FRANKLIN MUNICIPAL COMPLEX
CT0530064	FRANKLIN WILDLIFE MANAGEMENT AREA
CT0866301	FREEDOM VILLAGE ELDERLY HOUSING
CT0720214	FRIENDSHIP CHURCH
CT0691203	FRITO-LAY
CT0280041	GAIA GARDENS
CT1630104	GAUTHIER FIELD
CT1360074	GIBSON HILL PARK
CT0530114	GIDDINGS REC. PARK PAVILION
CT0530044	GIDDINGS RECREATION CONCESSION STAND
CT0710014	GIRL SCOUTS OF CT - CAMP LAUREL - WELL 1
CT0710024	GIRL SCOUTS OF CT - CAMP LAUREL - WELL 2
CT0710034	GIRL SCOUTS OF CT - CAMP LAUREL - WELL 3
CT0710194	GIRL SCOUTS OF CT - CAMP LAUREL - WELL 4
CT0450034	GIRL SCOUTS OF CT - CAMP PATTAGANSETT 1
CT0450044	GIRL SCOUTS OF CT - CAMP PATTAGANSETT 2

CT0450174	GIRL SCOUTS OF CT - CAMP PATTAGANSETT 3
CT0190284	GOLDEN LAMB RESTAURANT
CT0630024	GOODWIN CONSERVATION CENTER
CT0199091	GORMAN ROAD APARTMENTS
CT0710064	GOSHEN CONGREGATIONAL CHURCH
CT1020154	GREEN ONIONS II (PELASGIA, LLC)
CT0590203	GROTON BOARD OF EDUCATION
CT0590011	GROTON UTILITIES
CT0631223	HAMPTON ELEMENTARY SCHOOL
CT1090134	HANK'S DAIRY BAR
CT0190064	HANKS RESTAURANT
CT1219123	HARRIS BROOK COMMONS
CT1690094	HARRISVILLE GOLF COURSE
CT0790124	HARTFORD COUNTY 4-H CAMP
CT1210054	HENNY PENNY (HENDELS INC.) SALEM
CT1140084	HIDDEN ACRES CAMPGROUND
CT0690114	HIDE AWAY COVE CAMPGROUND
CT1230014	HIGHLAND CAMPGROUND
CT0530253	HILLTOP REALTY, LLC
CT0030194	HOLE IN THE WALL GANG CAMP (#2)
CT0038011	HOLE IN THE WALL GANG CAMP-MAIN SYSTEM#1
CT0580044	HOPEVILLE POND S.P./BEACH-WELL #2
CT0580054	HOPEVILLE POND S.P./CAMP-WELL #3
CT1490011	HOPKINS SUPPLY
CT1120054	HULL FOREST PRODUCTS
CT0280144	HUNG WON II, LLC
CT1691173	HYDE SCHOOL - SYSTEM #1 (SCHOOL)
CT1691171	HYDE SCHOOL - SYSTEM #2 (RESIDENTIAL)
CT0719083	HYPONEX CORPORATION - BAGGING PLANT
CT0860191	INDEPENDENCE VILLAGE ELDERLY HOUSING
CT1219113	INDIAN FIELD COOP CAMPGROUND ASSN., INC.
CT1690104	INN AT WOODSTOCK HILL
CT1410452	IVANHOE TOOL & DIE CO INC
CT0727083	IVY COTTAGE CHILDREN'S CENTER
CT0860141	JENSENS, INC. MARINA COVE RESIDENTIAL
CT0580051	JEWETT CITY WATER CO., S & W SYSTEM
CT0730021	JEWETT CITY WATER CO-HILL-N-DALE
CT0580011	JEWETT CITY WATER COMPANY
CT1361023	JORDAN PRESCHOOL & CHILD CARE
CT1094201	JUMBO APARTMENTS
CT0030224	JUNE NORCROSS WEBSTER - WELL #2
CT0030214	JUNE NORCROSS WEBSTER (CAFETERIA WELL)
CT1419071	JUSTICE RESOURCE INSTITUTE, INC.
CT0280094	KHYBERY KASSEM, MD
CT1021063	KIDDS & CO., LLC
CT0691243	KILLINGLY HIGH SCHOOL & AGRICULTURAL CTR
CT0690272	KILLINGLY HWY DEPT GARAGE

CT1021074	KINGDOM HALL OF JEHOVAHS WITNESSES
CT0860041	KITEMAUG ORCHARD ASSOCIATION, INC.
CT0280051	KNOB HILL CONDOMINIUMS
CT0280061	KNOB HILL CONDOMINIUMS, WELL #5
CT0220191	KNOLLBROOK VILLAGE ELDERLY HOUSING
CT0229044	KNOLLWOOD PLAZA
CT0719033	KOFKOFF EGG FARM
CT0130123	KOFKOFF EGG FARM
CT1410044	KOINONIA SCHOOL OF SPORTS
CT0710074	LAKE WILLIAMS CAMPGROUND
CT0860091	LAKESIDE MANOR APARTMENTS
CT0580031	LAKEVIEW MOBILE HOME PARK
CT0861442	LAUREL LOCK CAMPGROUND - STORE WELL
CT0860494	LAUREL LOCK CAMPGROUND-COTTAGE/LAKE WELL
CT0199103	LEARNING CLINIC - OVERLOOK BLDG
CT0199104	LEARNING CLINIC - PONDVIEW
CT0710084	LEBANON COMMUNITY HOUSE
CT0710212	LEBANON ELEMENTARY SCHOOL
CT0710094	LEBANON GREEN STORE
CT0719063	LEBANON MIDDLE SCHOOL
CT0719114	LEBANON SENIOR CENTER
CT0710124	LEBANON TOWN HALL
CT0130114	LEFFINGWELL BAPTIST CHURCH
CT1040044	LEOMILTS PETROLEUM, INC
CT0869073	LEONARD J.TYL MIDDLE SCHOOL
CT1140021	LINCOLN PARK ELDERLY HOUSING
CT1690442	LINEMASTER SWITCH CORP
CT0730122	LISBON CENTRAL SCHOOL
CT0730031	LISBON MOBILE HOMES
CT0730102	LISBON RIVER ROAD, LLC
CT0730144	LISBON TOWN HALL
CT0130064	LITTLE BROOK PLAZA
CT1690284	LITTLE RIVER PLAZA
CT0220011	LONGVIEW ESTATES, LLC
CT1120422	LOOS & CO - WELL #1
CT1410334	LORD THOMPSON MANOR
CT1140044	LU - MACS PACKAGE STORE
CT0710202	LYMAN MEMORIAL HIGH SCHOOL
CT1419053	MARIANAPOLIS PREP SCHOOL - ADMIN/SCHOOL
CT1410051	MARIANAPOLIS PREP SCHOOL - ST JOHNS
CT1419081	MARIANAPOLIS PREP SCHOOL -ST ALBERTS
CT0280194	MARIAS PIZZA PALACE RESTAURANT
CT1160034	MARIKA'S PLACE
CT0030061	MAR-LEA PARK APTS
CT1120094	MASHAMOQUET BROOK S.P./PARK WELL
CT0723011	MASHANTUCKET PEQUOT TRIBAL NATION
CT1160021	MATULAITIS NURSING HOME

CT0861021	MEADOWS APARTMENTS
CT1690134	MEADOWSIDE OF WOODSTOCK INC.
CT0590154	MEDTRONIC XOMED (MEROCEL FACILITY)
CT1370114	MEREFIELD PARK LLC
CT0810054	MIDDLEBURY HAMLET
CT1049034	MOHEGAN PARK - DOG POUND
CT1049024	MOHEGAN PARK - GROUP PAVILION
CT1331033	MOHEGAN SUN CC PAUTIPAUG - CLUBHOUSE
CT1041013	MONTESSORI DISCOVERY SCHOOL
CT0860164	MONTVILLE AMERICAN LITTLE LEAGUE
CT0860302	MONTVILLE HIGH SCHOOL
CT0860394	MONTVILLE POLISH AMERICAN CITIZENS CLUB
CT1090221	MOOSUP GARDEN APARTMENTS
CT1099131	MOOSUP MANOR
CT1120044	MOST HOLY TRINITY CATHOLIC CHURCH
CT0861051	MOUNTVIEW APARTMENTS
CT0690324	MOZZARELLAS OF KILLINGLY, INC
CT0598063	MYSTIC BUSINESS PARK, LLC
CT1020164	MYSTIC KOA, HIGHLAND ORCHARD RV
CT0590204	MYSTIC MEDICAL GROUP
CT0390194	NATCHAUG STATE PARK/LOWER PICNIC WELL
CT0390204	NATCHAUG STATE PARK/UPPER PICNIC WELL
CT0860664	NATURES ART
CT1120392	NEW ENGLAND LABORERS ACADEMY - MAIN SYS
CT1120324	NEW ENGLAND LABORERS ACADEMY - TRAINING
CT0720244	NEW LIFE CHURCH
CT0240192	NICKERSON PARK CAMPGROUND
CT1410432	NORAMPAC THOMPSON INC.
CT1020434	NORTH STONINGTON BAPTIST CHURCH
CT1021084	NORTH STONINGTON BIBLE CH - WORSHIP HALL
CT1020234	NORTH STONINGTON BIBLE CHURCH
CT1021031	NORTH STONINGTON CHRISTIAN ACADEMY
CT1020144	NORTH STONINGTON GRANGE #138
CT1020074	NORTH STONINGTON SHELL STATION (HENDELS)
CT1021064	NORTH STONINGTON XTRA MART
CT1631182	NORTH WINDHAM ELEM SCHOOL
CT1630154	NORTH WINDHAM FIRE DEPARTMENT
CT1021001	NORTHSTONE GARDENS
CT1699043	NORTHWOOD CHILDCARE
CT1040064	NORWICH AESTHETIC DENTISTRY
CT1040011	NORWICH PUBLIC UTILITIES
CT1040084	NORWICH WORSHIP CENTER
CT1410442	NUMA TOOL CO INC
CT0860031	OAKDALE HEIGHTS ASSOCIATION, INC
CT0869093	OAKDALE KIDS CENTER
CT0869023	OAKDALE SCHOOL
CT0860171	OAKRIDGE GARDENS, LLC

CT0860211	OAKRIDGE VILLAGE
CT0598023	OLD MYSTIC BAPTIST CHURCH
CT1360154	ONECO MARKET
CT1378063	OPEN DOOR BAPTIST CHURCH
CT0190074	OUR LADY OF LA SALETTE CHURCH
CT0630064	OUR LADY OF LOURDES CATHOLIC CHURCH
CT0860214	OUR LADY OF THE LAKES CHURCH
CT0199083	OVERLOOK HOLDINGS LLC LEARNING CLINIC
CT0030254	P&D REALTY, LLC
CT0580072	PACHAUG MARINA CAMPGROUND
CT1470114	PACHAUG S.F./H.P. #1 GREEN FALLS
CT1470154	PACHAUG S.F./MOUNT MISERY PUMP HOUSE
CT0280104	PAPA-ZS & SONS PIZZA
CT0241243	PARISH HILL HIGH SCHOOL
CT1378044	PAWCATUCK LITTLE LEAGUE BALLFIELDS
CT0390214	PEPPERTREE CAMPING
CT1370054	PEQUOT GOLF CLUB AND RESTAURANT
CT0865032	PEQUOT LEDGE CAMPGROUND
CT0030021	PERRY HILL ESTATES APARTMENTS INC.
CT1090271	PICKETT ROAD APARTMENTS
CT0240154	PINE ACRES
CT1370393	PINE POINT SCHOOL-CAMPBELL
CT1370403	PINE POINT SCHOOL-MITCHELL
CT1698041	PINECREST CONDOMINIUMS
CT1099083	PLAINFIELD REST AREA (I-395 N&S)
CT1630114	PLAINS ROAD PARK
CT1041001	PLEASURE VALLEY M.H.P. - SYSTEM #1
CT1041021	PLEASURE VALLEY M.H.P. - SYSTEM #2
CT1041031	PLEASURE VALLEY M.H.P. - SYSTEM #3
CT0580074	POLISH CLUB
CT1120322	POMFRET COMMUNITY SCHOOL
CT1120051	POMFRET SCHOOL
CT1120184	POMFRET TOWN HALL
CT1120204	POMFRET XTRA MART
CT0598033	PRECIOUS MEMORIES DAYCARE CENTER
CT1149023	PRESTON CITY CONGREGATIONAL CHURCH
CT1149044	PRESTON COMMUNITY PARK - 10 LINCOLN RD
CT1140094	PRESTON COMMUNITY PARK - 13 RT 117
CT1140011	PRESTON PLAINS WATER COMPANY
CT1141104	PRESTON PUBLIC LIBRARY
CT1140174	PRESTON SENIOR CENTER
CT1140104	PRESTON TOWN HALL
CT1149033	PRESTON VETERANS MEMORIAL SCHOOL
CT0719073	PRIDES CORNER FARMHOUSE, INC.
CT0719103	PRIDES CORNER FARMS - POTTING SHED
CT0220134	PRUDENCE CRANDALL MUSEUM
CT1160013	PUTNAM PRESCHOOL AND CHILDCARE, LLC.

CT1169023	PUTNAM CHRYSLER DODGE JEEP
CT1160011	PUTNAM WATER POLLUTION CONTROL AUTHORITY
CT1410014	QUADDICK COUNTRY STORE
CT1410084	QUADDICK POND S.P./PARK WELL
CT0860654	QUAKER HILL ROD & GUN CLUB
CT1219023	QUALITY DAYCARE & CO-OP NURSERY
CT1090354	QUINEBAUG FISH HATCHERY
CT1411041	QUINEBAUG MOBILE HOME PARK
CT1410114	QUINNATISSET COUNTRY CLUB
CT0860452	RAND WHITNEY REALTY, LLC
CT0710283	RED SNEAKERS
CT0719124	REDEEMER EVANGELICAL LUTHERAN CHURCH
CT0860464	RENALDIS GETTY
CT0860634	RENALDIS ONE STOP
CT0130084	REVELATION CHURCH
CT1360024	RIVER BEND CAMPGROUND
CT0580084	RIVER RIDGE GOLF COURSE & RESTAURANT
CT1470024	RIVERSIDE MALL (TOWN PIZZA)
CT1090244	RIVERVIEW PIZZA RESTAURANT
CT1370104	ROAD CHURCH
CT1090054	ROBERTS CENTRAL HOTEL
CT1690432	ROGERS CORP - PORON WELL
CT0691102	ROGERS CORP - ROGERS WELL
CT0597021	ROGERS MOBILE HOME PARK - GROTON
CT1410344	ROLLIES VARIETY
CT0580064	ROOSTERS VALERO
CT1690184	ROSELAND PARK GOLF COURSE
CT1690021	ROSELAND TERRACE ASSOCIATION, INC.
CT0300034	ROSEMAR LLC
CT1120144	ROSIES DRIVE-IN
CT0730182	ROSS HILL PARK CAMPGROUND
CT0731021	ROUND HILL LLC - WELL# 1
CT1099224	ROUTE 12 TACO
CT0190154	SACRED HEART CHURCH
CT0220054	SAINT AUGUSTINE CHURCH
CT0030294	SAINT PHILIP CHURCH OFFICE/RECTORY
CT1219013	SALEM ELEMENTARY SCHOOL
CT1210084	SALEM FARMS CAMPGROUND, INC
CT1210094	SALEM FREE PUBLIC LIBRARY
CT1210011	SALEM MANOR CONDOMINIUMS, SYSTEM #1
CT1219111	SALEM MANOR CONDOMINIUMS, SYSTEM #2
CT1219083	SALEM MARKETPLACE
CT1219093	SALEM TOWN CENTER LLC
CT1210104	SALEM TOWN HALL
CT1330014	SALT ROCK CAMPGROUND
CT1378074	SALTWATER FARM VINEYARD
CT1230092	SCOTLAND ELEMENTARY SCHOOL

CT1230034	SCOTLAND FIRE DEPT
CT0280214	SCOTTIES FROZEN CUSTARD
CT0720011	SCWA, BARRETT DIVISION (BAR)
CT0869011	SCWA, BIRCHWOOD DIVISION (BWD)
CT1020011	SCWA, CEDAR RIDGE DIVISION
CT0860081	SCWA, CHESTERFIELD DIVISION
CT0727031	SCWA, CHRISWOOD DIVISION (CWD)
CT0720081	SCWA, GRAY FARMS DIVISION (GRF)
CT0860131	SCWA, HILLCREST DIVISION (HLC)
CT1370021	SCWA, LANTERN HILL DIVISION (LNH)
CT0720313	SCWA, LEDYARD CENTER DIVISION
CT0860021	SCWA, MOHEGAN DIVISION
CT0860011	SCWA, MONTVILLE DIVISION (MTV)
CT1020021	SCWA, NORTH STONINGTON DIVISION (NST)
CT0867101	SCWA, ROBIN HILL DIVISION (RBN)
CT0869121	SCWA, SEVEN OAKS (OAK)
CT0720041	SCWA, TOWER-FERRY VIEW DIVISION
CT1099184	SEABIRD ENTERPRISES, INC.
CT1020314	SECOND BAPTIST CHURCH
CT1121131	SEELY - BROWN VILLAGE
CT1120344	SHARPE HILL VINEYARD - TASTING ROOM
CT1129084	SHARPE HILL VINEYARD, INC.
CT1090404	SKATE-INN, INC.
CT0030284	SMITTY'S, LLC
CT1699061	SOLAIR RECREATIONAL LEAGUE - LOWER RIDGE
CT1699053	SOLAIR RECREATIONAL LEAGUE - PAVILION
CT0190164	SORELS GARAGE
CT1690214	SOUTH WOODSTOCK BAPTIST CHURCH
CT0530324	SOUTHERN NEW ENGLAND EGG CO.
CT1020474	SPICER PLUS (FOOD & FUEL/DUNKIN DONUTS)
CT1330034	SPRAGUE ROD AND GUN CLUB
CT1330021	SPRAGUE WATER & SEWER AUTHORITY
CT1140114	ST CATHERINE OF SIENA
CT0710154	ST FRANCIS OF ASSISI
CT1140124	ST JAMES EPISCOPAL CHURCH
CT1630074	ST PAULS EPISCOPAL CHURCH
CT1020354	ST THOMAS MORE CATHOLIC CHURCH
CT0860282	ST. BERNARD SCHOOL
CT0030404	ST. PHILLIP THE APOSTLE (ACTIVITY CTR)
CT0868041	ST. THOMAS MORE SCHOOL-FIELDHOUSE
CT0861251	ST. THOMAS MORE SCHOOL-MAIN SYSTEM
CT0868011	ST. THOMAS MORE SCHOOL-THE COVE
CT1020364	STARDUST MOTEL
CT0860642	STATE POLICE BARRACKS TROOP E
CT0280024	STATE POLICE FLEET MAINTENANCE
CT0690254	STATELINE CAMP RESORT-WELL #1
CT1360142	STERLING MUNICIPAL BUILDING

CT1360011	STERLING WATER SYSTEM
CT1160064	STONEWALL COMMONS OF PUTNAM
CT1378054	STONINGTON COUNTRY CLUB INC.
CT1021053	STONINGTON INSTITUTE - INFIRMARY
CT1020483	STONINGTON INSTITUTE - KNOLLWOOD
CT1021043	STONINGTON INSTITUTE - LODGE
CT1020404	STONINGTON INSTITUTE - MAIN BUILDING
CT1020414	STONINGTON INSTITUTE - NORTH BUILDING
CT0866051	STONY BROOK MOBILE HOME PARK
CT1140471	STRAWBERRY PARK
CT0280114	STRIP MALL ON MIDDLETOWN ROAD
CT1020464	SUBWAY - N STONINGTON
CT1360094	SUN RIDGE RESORT CAMPGROUND
CT1040091	SUNNY WATERS MOBILE HOME PARK
CT1470034	SUNNYS MARKET
CT1690124	SWEET EVALINAS STAND
CT0530304	THAMES VALLEY ACADEMY OF GYMNASTICS
CT0860034	THE CHESTERFIELD FIRE COMPANY, INC.
CT0690304	THE GATHERING PLACE RESTAURANT & PIZZA
CT0690284	THE ICE BOX
CT0710174	THE LOG CABIN RESTAURANT
CT1040134	THE NORWICH FISH & GAME ASSOC., INC.
CT1129083	THE OWLS NEST DAY SCHOOL
CT0530284	THE PLANT GROUP - HEAD HOUSE
CT0530243	THE PLANT GROUP - OFFICE
CT1120061	THE RECTORY SCHOOL
CT0719053	THE SCOTTS-HYPONEX COMPANY-MAIN PLANT
CT1120234	THE VANILLA BEAN CAFE
CT1520054	THE WILLIAMS SCHOOL BALLFIELD
CT1410272	THOMPSON CONGREGATIONAL CHURCH
CT0867071	THOMPSON HILL WATER CO - BEECHWOOD ACRES
CT1410661	THOMPSON HILL WATER CO - PAULA LANE DIV
CT1410194	THOMPSON HOUSE OF PIZZA
CT1410124	THOMPSON ROD & GUN CLUB
CT1410204	THOMPSON SPEEDWAY RESTAURANT
CT1419084	THOMPSON SPEEDWAY-CONCESSION & GARAGE
CT1090593	TILCON CONNECTICUT INC - WAUREGAN PLANT
CT1020092	TINACO PLAZA, LLC
CT1330054	TJS CAFE
CT1450024	TRAVELERS RESTAURANT
CT1419093	TRI-STATE BAPTIST CHURCH
CT0280042	TRI-TOWN SHOPPING PLAZA
CT0710104	TRUMBULL LIBRARY
CT0731011	TUNNEL HILL MOBILE HOME PARK
CT0280124	TWO BROTHERS WINE & SPIRIT
CT0860084	UNCASVILLE DINER
CT1450112	UNION ELEMENTARY SCHOOL

CT1450214	UNION WEIGH STATION
CT1460334	VALLEY FALLS PARK
CT1410234	VALLEY SPRINGS SPORTSMAN CLUB
CT0860474	VFW POST 10060
CT1690324	VILLAGE AT SCRANTONS SHOPS, LLC
CT0711001	VILLAGE HILL APARTMENTS
CT1160074	VILLAGE RESTAURANT & LOUNGE
CT1120384	VINEYARD VALLEY GOLF CLUB
CT1470094	VOLUNTOWN BAPTIST CHURCH
CT1479013	VOLUNTOWN ELEMENTARY SCHOOL
CT1470064	VOLUNTOWN FIRE STATION
CT1479021	VOLUNTOWN HOUSING AUTHORITY
CT1470074	VOLUNTOWN TOWN HALL
CT1520061	WATERFORD COUNTRY SCHOOL, INC.
CT0710184	WATERS EDGE CAMPGROUND
CT1360134	WEIDELES PIZZA & PUB (ONECO COMMONS)
CT1120254	WE-LI-KIT ICE CREAM
CT1410264	WEST THOMPSON LAKE CAMPGROUND
CT0280084	WESTCHESTER CONGREGATIONAL CHURCH
CT0280031	WESTCHESTER HILLS CONDOMINIUM ASSN.
CT0030374	WESTFORD CONGREGATIONAL CHURCH
CT0691011	WESTVIEW NURSING CARE & REHAB CTR, INC.
CT1090161	WESTVIEW TERRACE MOBILE HOME PARK
CT0390102	WHITCRAFT CORPORATION
CT1410284	WHITE HORSE AT VERNON STILES INN
CT0869134	WIDE WORLD OF INDOOR SPORTS
CT0220074	WILLIMANTIC WASTE PAPER COMPANY
CT1630392	WINDHAM CENTER ELEMENTARY SCHOOL
CT1120264	WINDHAM/TOLLAND 4-H CAMP - DINING HALL
CT1120274	WINDHAM/TOLLAND 4-H CAMP - WELL #2
CT1210144	WITCH MEADOW LAKE CAMPGROUND - WELL #1
CT1210164	WITCH MEADOW LAKE CAMPGROUND - WELL #3
CT1120284	WOLF DEN STATE PARK/CAMPGROUND WELL
CT1020254	WOOD POND (WEST 1&2)
CT1121011	WOODLAND APARTMENTS
CT0030051	WOODLAWN APARTMENTS, LLC
CT1691112	WOODSTOCK ACADEMY
CT1690262	WOODSTOCK ELEMENTARY SCHOOL
CT1690031	WOODSTOCK HOUSING AUTHORITY
CT1698011	WOODSTOCK MEADOWS CONDOMINIUM ASSN.
CT1699023	WOODSTOCK MIDDLE SCHOOL
CT1696282	WOODSTOCK TOWN HALL
CT1690314	WOODSTOCK VALLEY MARKETPLACE
CT0220094	WRIGHTS MILL FARM - LODGE
CT0220164	WRIGHTS MILL FARM - PAVILION
CT1630021	WYNDHAM PARK APARTMENTS
CT0869124	YE OLDE WELL

CT0690274	ZIPS DINER INC
CT0248014	ZLOTNICKS GARAGE LLC

Eastern WUCC

RCSA Sec. 25-33h-1(b)(6)(A)(ii): Membership as a result of a public water system has the authority to provide such service as determined by legal rights such as legislative franchises, municipal charters, or interlocal agreements for the sale of water.

PWS_ID	PWS_NAME
CT0280011	Colchester Sewer & Water Commission
CT0000000	Connecticut Water Company
CT0690011	Crystal Water Company
CT1090081	Crystal Water Company of Plainfield
CT0429121	East Hampton WPCA- Royal Oaks System
CT0429031	East Hampton WPCA- Village Center
CT0450011	East Lyme Water and Sewer Commission
CT1090031	Gallup Water Service, Inc.
CT0590051	Groton Long Point Association
CT0590011	Groton Utilities
CT0580011	Jewitt City Water Company
CT0727051	Ledyard WPCA- Gales Ferry System
CT0727091	Ledyard WPCA- Ledyard Center
CT1410011	Masonville Spring Water Company
CT0640011	Metropolitan District Commission
CT0830011	Middletown Water Department
CT0864011	Montville Water Supply
CT1370011	Mystic Water Company
CT0950011	New London Dept. of Public Utilities
CT0590031	Noank Fire District
CT1040011	Norwich Public Utilities
CT1160011	Putnam Water Pollution Control Authority
CT0720011	SCWA, Barrett Division
CT0869011	SCWA, Birchwood Division
CT1020011	SCWA, Cedar Ridge Division
CT0860081	SCWA, Chesterfield Division
CT0727031	SCWA, Chriswood Division
CT0720081	SCWA, Gray Farms Division
CT0860131	SCWA, Hillcrest Division
CT1370021	SCWA, Lantern Hill Division
CT0720313	SCWA, Ledyard Center Division
CT0860021	SCWA, Mohegan Division
CT0860021	SCWA, Montville Division
CT1020021	SCWA, North Stonington Division
CT0867101	SCWA, Robin Hill Division
CT0869121	SCWA, Seven Oaks
CT0720041	SCWA, Tower-Ferry View Division
CT1330021	Sprague Water and Sewer Authority
CT1520071	Waterford WPCA

CT1630011 Windham Water Works

Eastern WUCC

RCSA Sec. 25-33h-1(b)(6)(B): One representative of each regional planning agency serving at least one municipality within the management area as elected by majority vote of the chief elected officials of the municipalities that are members of such regional planning agency.

Councils of Governments
Southeastern Connecticut
Northeastern Connecticut

APPENDIX C

SUMMARY OF SYSTEM CAPABILITITES AND MAJOR FACILIITES FOR COMMUNITY SYSTEMS SERVING < 1,000 PEOPLE

Appendix C
Summary of System Capabilities and Major Facilities for Community Water Systems Serving < 1,000 People

Community Water System	Primary Location Served	Back-up/ Emergency Supply	Inter-connections	Treatment	Distribution Pumping Facilities	Storage	Emergency Power Availability	Firefighting Capabilities
ASHFORD HILLS APARTMENTS	ASHFORD	YES	NONE	YES	YES	YES	NONE	NONE
BIRCH HILLS CONDOMINIUMS	ASHFORD	NONE	NONE	YES	NONE	YES	NONE	NONE
CWC - ASHFORD PARK DIVISION	ASHFORD	YES	NONE	NONE	YES	YES	YES	NONE
CWC - POMPEY HOLLOW DIVISION	ASHFORD	YES	NONE	NONE	YES	YES	YES	NONE
EVANGELICAL CHRISTIAN CENTER - MAIN	ASHFORD	YES	NONE	YES	YES	YES	NONE	NONE
MAR-LEA PARK APTS	ASHFORD	YES	NONE	YES	NONE	NONE	NONE	NONE
PERRY HILL ESTATES APARTMENTS INC.	ASHFORD	NONE	NONE	NONE	NONE	YES	NONE	NONE
WOODLAWN APARTMENTS, LLC	ASHFORD	NONE	NONE	NONE	NONE	YES	NONE	NONE
BROOKLYN MANOR	BROOKLYN	NONE	NONE	NONE	NONE	YES	NONE	NONE
GORMAN ROAD APARTMENTS	BROOKLYN	YES	NONE	NONE	NONE	YES	NONE	NONE
CAMPBELL HEIGHTS APARTMENTS - SYSTEM #2	CANTERBURY	YES	NONE	YES	NONE	YES	NONE	NONE
KNOLLBROOK VILLAGE ELDERLY HOUSING	CANTERBURY	YES	NONE	NONE	YES	YES	YES	NONE
LONGVIEW ESTATES, LLC	CANTERBURY	YES	NONE	NONE	NONE	YES	NONE	NONE
CHAPLIN WOODS CONDOMINIUMS	CHAPLIN	YES	NONE	NONE	NONE	YES	NONE	NONE
COLCHESTER COMMONS	COLCHESTER	YES	NONE	YES	YES	YES	YES	NONE
CWC - PONEMAH VILLAGE	COLCHESTER	YES	NONE	NONE	YES	YES	YES	NONE
CWC - WESTCHESTER VILLAGE	COLCHESTER	YES	NONE	YES	NONE	YES	YES	NONE
GAIA GARDENS	COLCHESTER	YES	NONE	YES	YES	YES	NONE	NONE
KNOB HILL CONDOMINIUMS	COLCHESTER	YES	NONE	NONE	NONE	YES	NONE	NONE
KNOB HILL CONDOMINIUMS, WELL #5	COLCHESTER	NONE	NONE	NONE	NONE	YES	NONE	NONE
WESTCHESTER HILLS CONDOMINIUM ASSOCIATION	COLCHESTER	YES	NONE	YES	YES	YES	NONE	NONE
CONNOLLYS TRAILER PARK	GRISWOLD	NONE	NONE	NONE	NONE	YES	NONE	NONE
CWC - GALLUP WATER -COUNTRY MOBILE DIV.	GRISWOLD	YES	NONE	YES	NONE	YES	YES	NONE

Community Water System	Primary Location Served	Back-up/ Emergency Supply	Inter-connections	Treatment	Distribution Pumping Facilities	Storage	Emergency Power Availability	Firefighting Capabilities
CWC - SHORELINE REG-BAY MOUNTAIN	GRISWOLD	YES	NONE	YES	YES	YES	NONE	NONE
JEWETT CITY WATER CO., S & W SYSTEM	GRISWOLD	YES	NONE	YES	NONE	YES	YES	NONE
LAKEVIEW MOBILE HOME PARK	GRISWOLD	NONE	NONE	YES	NONE	YES	NONE	NONE
COLONIAL EFFICIENCY APARTMENTS	GROTON	YES	NONE	YES	NONE	YES	NONE	NONE
ROGERS MOBILE HOME PARK - GROTON	GROTON	NONE	NONE	NONE	NONE	YES	NONE	NONE
CONRADS PARK	KILLINGLY	NONE	NONE	NONE	NONE	YES	NONE	NONE
COUNTRY ACRES PARK	KILLINGLY	YES	NONE	NONE	YES	YES	NONE	NONE
CRANBERRY BOG APARTMENTS	KILLINGLY	NONE	NONE	NONE	NONE	YES	NONE	NONE
FALL BROOK MOBILE HOME PARK	KILLINGLY	NONE	NONE	NONE	NONE	YES	NONE	NONE
WESTVIEW NURSING CARE & REHAB CENTER, INC.	KILLINGLY	YES	NONE	NONE	YES	YES	YES	NONE
AQUARION WATER COMPANY - LEBANON DIVISION	LEBANON	YES	NONE	YES	NONE	YES	YES	NONE
CAREFREE HOMEOWNERS ASSOCIATION	LEBANON	YES	NONE	YES	NONE	YES	NONE	NONE
CWC – AMSTON LAKE DIVISION	LEBANON	YES	NONE	YES	YES	YES	YES	NONE
CWC - LEBANON ELDERLY DIVISION	LEBANON	YES	NONE	NONE	YES	YES	YES	NONE
VILLAGE HILL APARTMENTS	LEBANON	NONE	NONE	NONE	NONE	YES	NONE	NONE
ASH WATER COMPANY, LLC	LEDYARD	YES	NONE	NONE	YES	YES	NONE	NONE
SCWA, BARRETT DIVISION (BAR)	LEDYARD	YES	NONE	YES	NONE	YES	YES	NONE
SCWA, CHRISWOOD DIVISION (CWD)	LEDYARD	YES	NONE	YES	NONE	YES	YES	NONE
SCWA, GRAY FARMS DIVISION (GRF)	LEDYARD	YES	NONE	YES	YES	YES	YES	NONE
SCWA, LEDYARD CENTER DIVISION	LEDYARD	YES	NONE	YES	NONE	YES	YES	NONE
JEWETT CITY WATER CO-HILL-N-DALE	LISBON	YES	NONE	YES	NONE	YES	YES	NONE
LISBON MOBILE HOMES	LISBON	NONE	NONE	YES	NONE	YES	NONE	NONE
ROUND HILL LLC - WELL# 1	LISBON	YES	NONE	YES	NONE	NONE	NONE	NONE
TUNNEL HILL MOBILE HOME PARK	LISBON	NONE	NONE	NONE	NONE	YES	NONE	NONE
DEER RUN SUPPLY	MONTVILLE	NONE	NONE	YES	NONE	YES	NONE	NONE
FOX LAUREL MOBILE HOME PARK, LLC	MONTVILLE	YES	NONE	YES	NONE	YES	NONE	NONE
FREEDOM VILLAGE ELDERLY HOUSING	MONTVILLE	NONE	NONE	YES	NONE	YES	YES	NONE

Community Water System	Primary Location Served	Back-up/ Emergency Supply	Inter-connections	Treatment	Distribution Pumping Facilities	Storage	Emergency Power Availability	Firefighting Capabilities
INDEPENDENCE VILLAGE ELDERLY HOUSING	MONTVILLE	NONE	NONE	NONE	NONE	YES	YES	NONE
JENSENS, INC. MARINA COVE RESIDENTIAL	MONTVILLE	YES	NONE	YES	NONE	YES	NONE	NONE
KITEMAUG ORCHARD ASSOCIATION, INC.	MONTVILLE	YES	NONE	NONE	YES	YES	NONE	NONE
LAKESIDE MANOR APARTMENTS	MONTVILLE	YES	NONE	YES	NONE	YES	NONE	NONE
MEADOWS APARTMENTS	MONTVILLE	NONE	NONE	YES	NONE	YES	NONE	NONE
MOUNTVIEW APARTMENTS	MONTVILLE	NONE	NONE	YES	NONE	YES	NONE	NONE
OAKDALE HEIGHTS ASSOCIATION, INC	MONTVILLE	YES	NONE	NONE	NONE	YES	NONE	NONE
OAKRIDGE GARDENS, LLC	MONTVILLE	NONE	NONE	YES	NONE	YES	NONE	NONE
OAKRIDGE VILLAGE	MONTVILLE	YES	NONE	YES	NONE	NONE	NONE	NONE
SCWA, BIRCHWOOD DIVISION (BWD)	MONTVILLE	YES	NONE	YES	NONE	YES	YES	NONE
SCWA, CHESTERFIELD DIVISION	MONTVILLE	YES	NONE	YES	NONE	YES	YES	NONE
SCWA, HILLCREST DIVISION (HLC)	MONTVILLE	YES	RECEIVE	YES	YES	YES	YES	NONE
SCWA, ROBIN HILL DIVISION (RBN)	MONTVILLE	YES	NONE	YES	NONE	YES	YES	NONE
SCWA, SEVEN OAKS (OAK)	MONTVILLE	YES	NONE	YES	YES	YES	YES	NONE
ST. THOMAS MORE SCHOOL-MAIN SYSTEM	MONTVILLE	YES	NONE	YES	NONE	YES	NONE	NONE
ST. THOMAS MORE SCHOOL-THE COVE	MONTVILLE	NONE	NONE	YES	NONE	YES	NONE	NONE
STONY BROOK MOBILE HOME PARK	MONTVILLE	NONE	NONE	NONE	NONE	YES	NONE	NONE
THOMPSON HILL WATER CO - BEECHWOOD ACRES	MONTVILLE	YES	NONE	YES	NONE	YES	NONE	NONE
NORTHSTONE GARDENS	NORTH STONINGTON	YES	NONE	NONE	NONE	YES	NONE	NONE
SCWA, CEDAR RIDGE DIVISION	NORTH STONINGTON	NONE	NONE	YES	NONE	YES	YES	NONE
COUNTRYSIDE DRIVE ASSOCIATION	NORWICH	NONE	NONE	NONE	NONE	YES	NONE	NONE
PLEASURE VALLEY M.H.P. - SYSTEM #1	NORWICH	YES	RECEIVE	NONE	NONE	YES	NONE	NONE
PLEASURE VALLEY M.H.P. - SYSTEM #2	NORWICH	NONE	SUPPLY	NONE	NONE	YES	NONE	NONE
PLEASURE VALLEY M.H.P. - SYSTEM #3	NORWICH	YES	YES	NONE	NONE	YES	NONE	NONE
SUNNY WATERS MOBILE HOME PARK	NORWICH	YES	NONE	NONE	YES	YES	NONE	NONE

Community Water System	Primary Location Served	Back-up/ Emergency Supply	Inter-connections	Treatment	Distribution Pumping Facilities	Storage	Emergency Power Availability	Firefighting Capabilities
ARNIO DRIVE LLC	PLAINFIELD	NONE	NONE	YES	NONE	YES	NONE	NONE
JUMBO APARTMENTS	PLAINFIELD	NONE	NONE	NONE	NONE	YES	NONE	NONE
MOOSUP GARDEN APARTMENTS	PLAINFIELD	YES	NONE	NONE	NONE	YES	NONE	NONE
MOOSUP MANOR	PLAINFIELD	NONE	NONE	NONE	NONE	YES	NONE	NONE
MOOSUP POND TERRACE, LLC	PLAINFIELD	YES	NONE	YES	NONE	YES	NONE	NONE
PICKETT ROAD APARTMENTS	PLAINFIELD	NONE	NONE	NONE	YES	YES	NONE	NONE
WESTVIEW TERRACE MOBILE HOME PARK	PLAINFIELD	YES	NONE	NONE	NONE	YES	NONE	NONE
COUNTRY MANOR	POMFRET	YES	NONE	NONE	YES	YES	NONE	NONE
POMFRET SCHOOL	POMFRET	NONE	NONE	NONE	NONE	YES	NONE	NONE
SEELY - BROWN VILLAGE	POMFRET	YES	NONE	YES	YES	YES	NONE	NONE
THE RECTORY SCHOOL	POMFRET	YES	NONE	YES	NONE	YES	NONE	NONE
WOODLAND APARTMENTS	POMFRET	NONE	NONE	YES	NONE	YES	NONE	NONE
LINCOLN PARK ELDERLY HOUSING	PRESTON	NONE	NONE	NONE	NONE	YES	NONE	NONE
PRESTON PLAINS WATER COMPANY	PRESTON	YES	RECEIVE	NONE	NONE	YES	NONE	NONE
STRAWBERRY PARK	PRESTON	YES	NONE	NONE	NONE	YES	NONE	NONE
MATULAITIS NURSING HOME	PUTNAM	YES	NONE	NONE	NONE	YES	NONE	NONE
CRYSTAL LAKE CONDOMINIUMS	SALEM	YES	NONE	YES	NONE	YES	NONE	NONE
SALEM MANOR CONDOMINIUMS, SYSTEM #1	SALEM	NONE	NONE	NONE	NONE	YES	NONE	NONE
SALEM MANOR CONDOMINIUMS, SYSTEM #2	SALEM	NONE	NONE	NONE	NONE	YES	NONE	NONE
GIBSON HILL PARK	STERLING	YES	NONE	YES	NONE	NONE	NONE	NONE
STERLING WATER SYSTEM	STERLING	YES	NONE	YES	NONE	YES	NONE	NONE
ARLINGTON ACRES MANUFACTURED HOUSE COMMUNITY, LLC	STONINGTON	YES	NONE	YES	NONE	YES	YES	NONE
CLASSEE WATER SYSTEM - LATIMER POINT	STONINGTON	NONE	RECEIVE	NONE	NONE	NONE	*	NONE
CWC - SHORELINE REGION-MASONS ISLAND	STONINGTON	NONE	RECEIVE	NONE	NONE	NONE	*	NONE
SCWA, LANTERN HILL DIVISION (LNH)	STONINGTON	NONE	NONE	YES	NONE	YES	YES	NONE
JUSTICE RESOURCE INSTITUTE, INC.	THOMPSON	YES	NONE	YES	NONE	YES	NONE	NONE

Community Water System	Primary Location Served	Back-up/ Emergency Supply	Inter-connections	Treatment	Distribution Pumping Facilities	Storage	Emergency Power Availability	Firefighting Capabilities
MARIANAPOLIS PREP SCHOOL - ST JOHNS	THOMPSON	YES	NONE	YES	YES	YES	YES	NONE
MARIANAPOLIS PREP SCHOOL -ST ALBERTS	THOMPSON	YES	NONE	NONE	YES	YES	YES	NONE
QUINEBAUG MOBILE HOME PARK	THOMPSON	YES	NONE	YES	NONE	YES	NONE	NONE
THOMPSON HILL WATER CO - PAULA LANE DIVISION	THOMPSON	NONE	NONE	NONE	NONE	YES	NONE	NONE
CWC – SDC WATER	VOLUNTOWN	YES	NONE	YES	YES	YES	YES	NONE
VOLUNTOWN HOUSING AUTHORITY	VOLUNTOWN	NONE	NONE	YES	NONE	YES	NONE	NONE
WATERFORD COUNTRY SCHOOL, INC.	WATERFORD	YES	NONE	YES	NONE	YES	YES	NONE
DOUGLAS MANOR	WINDHAM	YES	NONE	YES	NONE	YES	NONE	NONE
WYNDHAM PARK APARTMENTS	WINDHAM	YES	NONE	YES	NONE	YES	NONE	NONE
BROOKWOOD APARTMENTS	WOODSTOCK	YES	NONE	YES	YES	YES	NONE	NONE
CWC – CORNFIELD POINT DIVISION	WOODSTOCK	YES	NONE	NONE	YES	YES	YES	NONE
FAWN RIDGE ASSOCIATION INC.	WOODSTOCK	YES	NONE	YES	NONE	NONE	NONE	NONE
HYDE SCHOOL - SYSTEM #2 (RESIDENTIAL)	WOODSTOCK	YES	YES	YES	YES	YES	YES	NONE
PINECREST CONDOMINIUMS	WOODSTOCK	YES	NONE	YES	YES	YES	YES	NONE
ROSELAND TERRACE ASSOCIATION, INC.	WOODSTOCK	NONE	NONE	NONE	YES	YES	NONE	NONE
SOLAIR RECREATIONAL LEAGUE - LOWER RIDGE	WOODSTOCK	YES	NONE	NONE	YES	YES	NONE	NONE
WOODSTOCK HOUSING AUTHORITY	WOODSTOCK	NONE	NONE	YES	NONE	YES	NONE	YES
WOODSTOCK MEADOWS CONDOMINIUM ASSN.	WOODSTOCK	YES	NONE	YES	NONE	YES	YES	NONE

Note: If no information was available, it was assumed that the public water system did not have the service/capability.
* Emergency power capabilities provided by source utility.

APPENDIX D

SUMMARY OF MARGIN OF SAFETY FOR COMMUNITY SYSTEMS SERVING < 1,000 PEOPLE

Appendix D
Summary of Margin of Safety for Public Water Systems Serving < 1,000 People

Community Water System	Primary Location Served	Estimated Population Served	Average Day Demand (gpd)[1]	Available Yield (gpd)[2]	Margin of Safety	Peak Hourly Demand (gal)[3]	Per-Capita Demand (gpcd)[4]
ASHFORD HILLS APARTMENTS	ASHFORD	136	10,200	36,720	3.60	3,400	-
BIRCH HILLS CONDOMINIUMS	ASHFORD	132	9,900	142,560	14.40	3,300	-
CWC - ASHFORD PARK DIVISION	ASHFORD	334	18,074	228,960	12.67	6,025	54
CWC - POMPEY HOLLOW DIVISION	ASHFORD	32	2,918	33,480	11.47	973	91
EVANGELICAL CHRISTIAN CENTER - MAIN	ASHFORD	84	6,300	29,160	4.63	2,100	-
MAR-LEA PARK APTS	ASHFORD	50	3,750	16,200	4.32	1,250	-
PERRY HILL ESTATES APARTMENTS INC.	ASHFORD	144	10,800	54,000	5.00	3,600	-
WOODLAWN APARTMENTS, LLC	ASHFORD	102	2,574	73,440	28.53	858	25
BROOKLYN MANOR	BROOKLYN	30	2,250	7,560	9.45	267	27
GORMAN ROAD APARTMENTS	BROOKLYN	25	1,875	27,000	14.40	625	-
CAMPBELL HEIGHTS APARTMENTS - SYSTEM #2	CANTERBURY	36	4,689	19,440	4.15	1,563	130
KNOLLBROOK VILLAGE ELDERLY HOUSING	CANTERBURY	48	3,600	49,680	13.80	1,200	-
LONGVIEW ESTATES, LLC	CANTERBURY	69	5,175	19,440	3.76	1,725	-
CHAPLIN WOODS CONDOMINIUMS	CHAPLIN	69	1,300	22,680	17.45	433	19
COLCHESTER COMMONS	COLCHESTER	224	11,000	102,600	9.33	3,667	49
CWC - PONEMAH VILLAGE	COLCHESTER	60	1,827	32,400	17.73	609	30
CWC - WESTCHESTER VILLAGE	COLCHESTER	252	6,197	45,360	7.32	2,066	25
GAIA GARDENS	COLCHESTER	276	20,700	36,396	1.76	6,900	-
KNOB HILL CONDOMINIUMS	COLCHESTER	66	4,950	19,440	3.93	1,650	-
KNOB HILL CONDOMINIUMS, WELL #5	COLCHESTER	18	1,350	9,720	7.20	450	-
WESTCHESTER HILLS CONDOMINIUM ASSOCIATION	COLCHESTER	225	16,875	46,440	2.75	5,625	-
CONNOLLYS TRAILER PARK	GRISWOLD	74	5,550	9,720	1.75	1,850	-
CWC - GALLUP WATER -COUNTRY MOBILE DIV.	GRISWOLD	186	8,715	18,360	2.11	2,905	47
CWC - SHORELINE REG-BAY MOUNTAIN	GRISWOLD	440	15,490	42,120	2.72	5,163	35
JEWETT CITY WATER CO., S & W SYSTEM	GRISWOLD	320	16,000	75,600	4.73	5,333	50
LAKEVIEW MOBILE HOME PARK	GRISWOLD	99	7,425	7,560	1.02	2,475	-
COLONIAL EFFICIENCY APARTMENTS	GROTON	66	4,950	NR	NR	1,650	-
ROGERS MOBILE HOME PARK - GROTON	GROTON	57	4,275	22,680	5.31	1,425	-
CONRADS PARK	KILLINGLY	60	4,500	8,640	1.92	1,500	-

Community Water System	Primary Location Served	Estimated Population Served	Average Day Demand (gpd)[1]	Available Yield (gpd)[2]	Margin of Safety	Peak Hourly Demand (gal)[3]	Per-Capita Demand (gpcd)[4]
COUNTRY ACRES PARK	KILLINGLY	48	4,000	17,280	4.32	1,333	83
CRANBERRY BOG APARTMENTS	KILLINGLY	72	7,425	7,560	1.02	2,475	-
FALL BROOK MOBILE HOME PARK	KILLINGLY	98	7,350	5,400	0.73	2,450	-
WESTVIEW NURSING CARE & REHAB CENTER, INC.	KILLINGLY	140	10,500	NR	NR	3,500	-
AQUARION WATER COMPANY - LEBANON DIVISION	LEBANON	234	6,886	30,000	4.36	2,295	29
CAREFREE HOMEOWNERS ASSOCIATION	LEBANON	172	7,000	NR	NR	4,300	41
CWC – AMSTON LAKE DIVISION	LEBANON	910	28,896	89,640	3.10	9,632	32
CWC - LEBANON ELDERLY DIVISION	LEBANON	67	1,288	11,232	8.72	429	19
VILLAGE HILL APARTMENTS	LEBANON	36	2,700	NR	NR	900	-
ASH WATER COMPANY, LLC	LEDYARD	108	7,000	77,760	11.11	2,333	65
SCWA, BARRETT DIVISION (BAR)	LEDYARD	300	11,700	59,250	5.06	3,900	39
SCWA, CHRISWOOD DIVISION (CWD)	LEDYARD	164	7,100	18,360	2.59	2,367	43
SCWA, GRAY FARMS DIVISION (GRF)	LEDYARD	460	23,800	63,750	2.68	7,933	52
SCWA, LEDYARD CENTER DIVISION	LEDYARD	196	4,500	43,200	9.60	1,500	23
JEWETT CITY WATER CO-HILL-N-DALE	LISBON	146	4,400	25,920	5.89	1,466	30
LISBON MOBILE HOMES	LISBON	155	11,625	48,600	4.18	3,875	-
ROUND HILL LLC - WELL# 1	LISBON	72	5,400	17,820	3.30	1,800	-
TUNNEL HILL MOBILE HOME PARK	LISBON	40	3,000	8,640	2.88	1,000	-
DEER RUN SUPPLY	MONTVILLE	84	6,300	10,800	1.71	2,100	-
FOX LAUREL MOBILE HOME PARK, LLC	MONTVILLE	40	3,000	12,960	4.32	1,000	-
FREEDOM VILLAGE ELDERLY HOUSING	MONTVILLE	43	3,225	226,800	70.33	1,075	-
INDEPENDENCE VILLAGE ELDERLY HOUSING	MONTVILLE	55	4,125	10,800	2.62	1,375	-
JENSENS, INC. MARINA COVE RESIDENTIAL	MONTVILLE	70	1,775	12,960	7.30	592	25
KITEMAUG ORCHARD ASSOCIATION, INC.	MONTVILLE	490	36,750	86,400	2.35	12,250	-
LAKESIDE MANOR APARTMENTS	MONTVILLE	72	2,900	54,000	18.62	967	40
MEADOWS APARTMENTS	MONTVILLE	301	22,575	123,120	5.45	7,525	-
MOUNTVIEW APARTMENTS	MONTVILLE	105	7,875	9,720	1.23	2,625	-
OAKDALE HEIGHTS ASSOCIATION, INC	MONTVILLE	876	65,700	234,360	3.57	21,900	-
OAKRIDGE GARDENS, LLC	MONTVILLE	70	5,250	NR	NR	1,750	-
OAKRIDGE VILLAGE	MONTVILLE	33	2,475	25,920	10.47	825	-
SCWA, BIRCHWOOD DIVISION (BWD)	MONTVILLE	108	3,300	19,500	5.91	1,100	31
SCWA, CHESTERFIELD DIVISION	MONTVILLE	524	24,400	159,750	6.55	8,133	47

Community Water System	Primary Location Served	Estimated Population Served	Average Day Demand (gpd)[1]	Available Yield (gpd)[2]	Margin of Safety	Peak Hourly Demand (gal)[3]	Per-Capita Demand (gpcd)[4]
SCWA, HILLCREST DIVISION (HLC)	MONTVILLE	450	23,800	105,000	4.41	7,933	53
SCWA, ROBIN HILL DIVISION (RBN)	MONTVILLE	388	15,300	70,500	4.61	5,100	39
SCWA, SEVEN OAKS (OAK)	MONTVILLE	26	1,600	48,600	30.38	533	62
ST. THOMAS MORE SCHOOL-MAIN SYSTEM	MONTVILLE	270	20,250	47,520	2.35	6,750	-
ST. THOMAS MORE SCHOOL-THE COVE	MONTVILLE	25	1,875	8,640	4.61	625	-
STONY BROOK MOBILE HOME PARK	MONTVILLE	34	2,550	NR	NR	850	-
THOMPSON HILL WATER CO - BEECHWOOD ACRES	MONTVILLE	77	5,775	11,880	2.06	1,925	-
NORTHSTONE GARDENS	NORTH STONINGTON	79	5,925	27,000	4.56	1,975	-
SCWA, CEDAR RIDGE DIVISION	NORTH STONINGTON	370	18,200	70,200	3.85	6,067	49
COUNTRYSIDE DRIVE ASSOCIATION	NORWICH	96	7,200	10,800	1.50	2,400	-
PLEASURE VALLEY M.H.P. - SYSTEM #1	NORWICH	89	6,675	22,680	3.40	2,225	-
PLEASURE VALLEY M.H.P. - SYSTEM #2	NORWICH	73	5,475	20,520	3.75	1,825	-
PLEASURE VALLEY M.H.P. - SYSTEM #3	NORWICH	47	3,525	9,720	2.76	1,175	-
SUNNY WATERS MOBILE HOME PARK	NORWICH	303	22,725	52,920	2.33	7,575	-
ARNIO DRIVE LLC	PLAINFIELD	33	2,475	23,760	9.60	825	-
JUMBO APARTMENTS	PLAINFIELD	35	2,625	11,880	4.53	875	-
MOOSUP GARDEN APARTMENTS	PLAINFIELD	210	11,643	48,600	4.17	3,881	55
MOOSUP MANOR	PLAINFIELD	27	1,300	29,160	22.43	433	48
MOOSUP POND TERRACE, LLC	PLAINFIELD	46	3,450	49,680	14.40	1,150	-
PICKETT ROAD APARTMENTS	PLAINFIELD	25	1,875	6,480	3.46	625	-
WESTVIEW TERRACE MOBILE HOME PARK	PLAINFIELD	60	4,500	10,692	2.38	1,500	-
COUNTRY MANOR	POMFRET	66	4,950	70,200	14.18	1,650	-
POMFRET SCHOOL	POMFRET	400	41,000	108,000	2.63	13,667	103
SEELY - BROWN VILLAGE	POMFRET	48	3,600	19,980	5.55	1,200	-
THE RECTORY SCHOOL	POMFRET	300	18,000	47,520	2.64	6,000	60
WOODLAND APARTMENTS	POMFRET	36	2,700	14,040	5.20	900	-
LINCOLN PARK ELDERLY HOUSING	PRESTON	80	2,500	NR	NR	833	31
PRESTON PLAINS WATER COMPANY	PRESTON	374	23,786	31,104	1.31	7,929	64
STRAWBERRY PARK	PRESTON	950	71,250	118,800	1.67	23,750	-
MATULAITIS NURSING HOME	PUTNAM	254	19,050	128,520	6.75	6,350	-
CRYSTAL LAKE CONDOMINIUMS	SALEM	184	13,800	79,920	5.79	4,600	-
SALEM MANOR CONDOMINIUMS, SYSTEM #1	SALEM	32	2,400	8,100	3.38	800	-

Community Water System	Primary Location Served	Estimated Population Served	Average Day Demand (gpd)[1]	Available Yield (gpd)[2]	Margin of Safety	Peak Hourly Demand (gal)[3]	Per-Capita Demand (gpcd)[4]
SALEM MANOR CONDOMINIUMS, SYSTEM #2	SALEM	25	1,875	NR	NR	625	-
GIBSON HILL PARK	STERLING	103	7,725	NR	NR	2,575	-
STERLING WATER SYSTEM	STERLING	308	193,755	678,000	NR	64,585	41
ARLINGTON ACRES MANUFACTURED HOUSE COMMUNITY, LLC	STONINGTON	392	33,000	38,880	1.18	11,000	84
CLASSEE WATER SYSTEM - LATIMER POINT	STONINGTON	316	3,256	6,200	1.90	1,085	10
CWC - SHORELINE REGION-MASONS ISLAND	STONINGTON	445	43,737	189,000	4.32	14,579	98
SCWA, LANTERN HILL DIVISION (LNH)	STONINGTON	92	3,200	16,200	5.06	1,067	35
JUSTICE RESOURCE INSTITUTE, INC.	THOMPSON	56	4,200	NR	NR	1,400	-
MARIANAPOLIS PREP SCHOOL - ST JOHNS	THOMPSON	128	9,600	15,120	1.58	3,200	-
MARIANAPOLIS PREP SCHOOL -ST ALBERTS	THOMPSON	51	2,900	3,240	1.12	967	57
QUINEBAUG MOBILE HOME PARK	THOMPSON	205	15,375	62,640	4.07	5,125	-
THOMPSON HILL WATER CO - PAULA LANE DIVISION	THOMPSON	85	6,375	NR	NR	2,125	-
CWC – SDC WATER	VOLUNTOWN	216	5,274	140,400	26.62	1,758	24
VOLUNTOWN HOUSING AUTHORITY	VOLUNTOWN	42	3,150	NR	NR	1,050	-
WATERFORD COUNTRY SCHOOL, INC.	WATERFORD	180	13,500	19,440	1.44	4,500	-
DOUGLAS MANOR	WINDHAM	135	10,125	21,384	2.11	3,375	-
WYNDHAM PARK APARTMENTS	WINDHAM	312	23,400	NR	NR	7,800	-
BROOKWOOD APARTMENTS	WOODSTOCK	44	3,300	7,560	2.29	1,100	-
CWC – CORNFIELD POINT DIVISION	WOODSTOCK	57	2,701	16,200	6.00	900	47
FAWN RIDGE ASSOCIATION INC.	WOODSTOCK	36	2,700	20,520	7.60	900	-
HYDE SCHOOL - SYSTEM #2 (RESIDENTIAL)	WOODSTOCK	310	10,230	45,360	4.43	3,410	33
PINECREST CONDOMINIUMS	WOODSTOCK	110	8,250	23,112	2.80	2,750	-
ROSELAND TERRACE ASSOCIATION, INC.	WOODSTOCK	100	7,500	8,640	1.15	2,500	-
SOLAIR RECREATIONAL LEAGUE - LOWER RIDGE	WOODSTOCK	150	2,585	44,280	17.13	862	17
WOODSTOCK HOUSING AUTHORITY	WOODSTOCK	26	1,950	9,720	4.98	650	-
WOODSTOCK MEADOWS CONDOMINIUM ASSN.	WOODSTOCK	180	13,500	56,160	4.16	4,500	-

Note: NR indicates that data is not available.

1. Based on actual system demands or estimated at 75 gallons per person per day.
2. Based on pumping capacity multiplied by an 18-hour pumping day, or actual safe yield if reported.
3. Estimated as equal to 1/3 of average day demand.
4. GPCD = Gallons per capita per day. Only reported for systems where actual average day demand is known, not estimated.

APPENDIX E

PUBLIC COMMENTS RECEIVED ON THE PRELIMINARY WATER SUPPLY ASSESSMENT

Log of Comments – Water Supply Assessment – Eastern Region WUCC

Date	*Commenter*	*Main Points*	*Response/Edits*
9/14/16	Aquarion Water Company	▪ Factual corrections to narrative and/or tables.	▪ Updated Table 2-7 and subsequent discussion as requested.
09/16/16	Groton Utilities	▪ Factual corrections to narrative and/or tables.	▪ Updated Table 2-5 and associated text as requested. ▪ Updated discussion in Section 3.8 relative to changes to Table 2-5.
09/19/16	Ledyard WPCA	▪ Municipal survey responses	▪ Updated Table 6-4 with survey responses.
09/27/16	Town of Franklin	▪ Municipal survey responses	▪ Updated Table 6-4 with survey responses.
10/04/16	Rivers Alliance	▪ Identify "donor" towns (i.e. town location of source(s) of supply) ▪ Present data and information by town. ▪ Add town names on mapping for clarity. ▪ Present information on existing and planned interconnections in one place. ▪ Indicate the direction of water flow for interconnections. ▪ Provide both the donor and recipient when referring to interconnections. ▪ Provide additional information on identified future supply sources.	▪ Added Table 4-2 for source towns/sub-regional basins and recipient towns/sub-regional basins. ▪ Sorted several tables by Town for clarity. ▪ Added Town names and CWS names to Appended Figure 2. ▪ Added transfers through active interconnections to Table 2-9, and sorted by supplier. ▪ Clarified that Table 2-10 is referring to future interconnections
10/18/16	Rivers Alliance	▪ There is a need for additional information on interconnections. ▪ What is the accuracy of reported water need? ▪ Sources should be disclosed. ▪ Need to assess reliability/viability of individual existing utility sources. ▪ Other comments regarding ESAs	▪ Added Table 4-2 to provide additional information on active interconnections. ▪ Water utility projections generally err on the side of overestimation in order to provide a reasonable timeframe to identify sources and construct improvements. Future water sources will be further addressed in the Integrated Report. ▪ The specific location of sources will not be disclosed in keeping with the CWWA recommendations to the Water Planning Council dated November 3, 2015 and MMI's confidentiality agreement with DPH. Sub-regional basins that are sources and recipients have been listed in Table 4-2. Where water utilities have specific plans for new sources, they have been identified by sub-regional drainage basin. ▪ Detailed reliability/viability assessments of individual sources and systems is beyond the scope of this planning document as noted in Section 2.3. A general assessment is provided.
10/19/16	Town of Thompson (First Selectman Ken Beausoleil via phone)	▪ Questions regarding ESA process ▪ Noted failing septic systems in Thompson Hill area could impact private wells	▪ Added septic system comments to Table 6-4.
10/19/16	Lord Thompson Manor (Don Brown via phone)	▪ Questions regarding ESA process	▪ No response necessary in Water Supply Assessment.
10/19/16	Town of Franklin (First Selectman Rich Matters via phone)	▪ Questions regarding ESA process near areas with contaminated wells	▪ No response necessary in Water Supply Assessment.

Date	*Commenter*	*Main Points*	*Response/Edits*
10/20/16	DEEP	▪ Aggregation of data makes assessment of specifics difficult. ▪ It would be helpful to define certain terms. ▪ Clarify the differences/assumptions for population data. ▪ An effort to obtain input from additional municipalities is warranted. ▪ Discuss the State Aquifer Protection Area Program. ▪ Ensure the State C&D Policies are addressed throughout the planning process. ▪ Other items to consider during the ESA designations and Integrated Report.	▪ Added requested terms to the Definitions page. ▪ Clarified 15% margin of safety recommendation in Section 2.4. ▪ Clarified population projections in Section 5.3, adding additional text to the beginning and end of the section. ▪ Referred the question of collecting additional input from municipalities back to the WUCC; additional information may be coming from COGs. ▪ Added Section 6.3.5 to discuss Aquifer Protection Area program. ▪ State C&D policies are required to be reviewed under the ESA Document (Part II). Regional plans have been reviewed where available.
10/27/16	Roselund Terrace Water Association	▪ Questions regarding ESA process	▪ No response necessary in Water Supply Assessment.

Log of Comments Received from the Public
Water Supply Assessment – Eastern Region WUCC

Date	*Commenter*	*Main Points*
Various/ Undated/	Individual Residents	There are no comments specific to the Preliminary WSA; rather the letters convey the following sentiments: ▪ Prioritize environmental protection. ▪ Prioritize need for clean drinking water over corporate interests. ▪ Ensure quality and quantity of water is not compromised. ▪ Keep Connecticut's water in public trust. ▪ Require water conservation. ▪ Develop a regional water planning strategy. ▪ Provide ample opportunity for public comment. Some of these comments are applicable to the discussion that will be provided in the Integrated Report For example, water supply planning recommendations to address prioritization of users during droughts and emergencies, the status of water conservation, and a regional water planning strategy will be considered. The WUCC offers the opportunity for public comment at all meetings and offers public comment periods on all sections of its Coordinated Water System Plan.

Date	*Commenter*	*Affiliation*
10/14/16	Francis Ossmann (2 letters)	Old Lyme Resident
10/14/16	Marilyn Ossmann (2 letters)	Old Lyme Resident
10/14/16	Stephanie Morton	Old Lyme Resident
10/14/16	Glenn Bair & Ann Bertini	Old Lyme Residents
10/14/16	Lori Sulmasy (2 letters)	Old Lyme Resident
10/14/16	Nicole & Paul Michaud	Old Lyme Residents
10/14/16	David Hovey	Old Lyme Resident
Undated	Lawrence Ghirardi (2 letters)	Old Lyme Resident
Undated	Paul Field (2 letters)	Old Lyme Resident
Undated	Curt Alpha (2 letters)	Old Lyme Resident
Undated	Dominique Horah-Nanez	Wilton Resident
Undated	Pat Cidanti	---

Eastern WUCC Preliminary Assessment – September 14, 2016
Aquarion Water Company Comments

Aquarion Specific Comments

1. Page 28, Table 2-7, Under Groundwater supplies for the Aquarion Water Co – Mystic System, add A.

2. Page 29, In the first paragraph under the table in the second sentence – delete "Aquarion Water Company Mystic"

1.	Groton Utilities / 2015 Water Data[1]		
	Average Day	5.70 mgd	
	Maximum Month Average Day	6.81 mgd	
	Maximum Day	8.13 mgd	
2.	Available Water Calculations	Unchanged	
3.	Unaccounted for Water	< 1%	
	Per Capita Residential Demands	59 gpcd[2]	
4.	Ledyard WPCA / 2015 Water Data		
	Average Day	0.29 mgd	[Total WPCA]
		0.14 mgd	[Ledyard Center]
		0.14 mgd	[Gales Ferry]
	Maximum Month Average Day	0.47 mgd	[Total WPCA]
		0.20 mgd	[Ledyard Center]
		0.24 mgd	[Gales Ferry]
	Maximum Day	0.60 mgd	[Center Ledyard]
		0.49 mgd	[Gales Ferry]
5.	Groton Long Point / 2015 Water Data		
	Average Day	0.12 mgd	
	Maximum Month Average Day	0.22 mgd	
	Maximum Day	Not Available	
	Noank / 2015 Water Data		
	Average Day	0.20 mgd	
	Maximum Month Average Day	0.38 mgd	
	Maximum Day	Not Available	

[1] Note that numbers for Groton Utilities cover the City & Town of Groton, the Town of Ledyard and all other regional interconnections, including the Thames Crossing and the Aquarion interconnection.
[2] This remains the same based on the fact that the last official census was conducted in 2010, at which time average daily use was the same as in 2015, i.e., 5.7 mgd.

1. Is the creation of a public water system desired in any village centers (or other areas where there is a concentration of residential or commercial uses) due to high development density and challenging lot sizes, perhaps coupled with a desire for nominal growth?

Yes - in the Ledyard Center Village District. The town would like to develop the land within the district and has applied for a state grant to build a road named Fairway Drive. Unfortunately it is partially served by two water service areas - the Ledyard WPCA and the South Eastern Water District (SCWA). The Ledyard WPCA has a 16 inch main on Route 117 to the west of the district and a 16 in main to the south of the district and an 8 inch main to the north and west of the district. Although SCWA ESA covers a good portion of Fairway Drive to the south and north, the area west is covered by Ledyard WPCA. Also a 750,000 gallon tower provides water pressure for the Ledyard WPCA and is in the SCWA ESA! The town of Ledyard would like to develop Fairway Drive with both water service and fire protection in advance of development (build it and they will come) while SCWA wants to wait and pay-as-you-go for any water installation. Also the area served by SCWA cannot provide fire protection. The ultimate goal would be for SCWA to allow the town of Ledyard to provide fire and water service to Fairway Drive for future development opportunities.

2. Is the creation of a public water system desired in any village center (or other areas where there is a concentration of residential or commercial uses) due to water quality concerns? No

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3. Do you know of any examples of water systems in need of assistance or experiencing problems? In other words, systems generating citizen complaints that may benefit from consolidation with or acquisition by a larger water company, or systems with insufficient supply that need to truck in water via tanker truck during the summer? Not at present but there have been several failures of small water systems in Ledyard that has necessitated the Ledyard WPCA to take over these systems. The concern is that at present it is unknown what additional systems could fail and it

would be desirable to have data and knowledge of the present state of these systems within the town today in order to plan for interconnects in the future.

4. Where is the movement of water needed from areas of surplus to areas of need where interconnections are already present? Presently none
5. Do you know of any examples where it may be prudent to eliminate small systems where nearby larger water system expansions have occurred? Yes the Ledyard Center District as mentioned above.
6. Is there a desire to reduce the number of small systems, even where options are limited? When systems fail, the WPCA is certainly interested in taking over and providing water.
7. Can you think of any new water system interconnections that could address any of the challenges described above? There are several areas along route 12 and Route 117 the run past these small water systems that could benefit
8. If the community owns and operates one or more water systems, has there been a lack of funding for desired water system expansions? Yes - the village district proposals are on example.

Scott Bighinatti

From: Rich Matters <franklin@99main.com>
Sent: Tuesday, September 27, 2016 3:14 PM
To: Scott Bighinatti
Subject: Information Requested

Follow Up Flag: Follow up
Flag Status: Flagged

1. Is the creation of a public water system desired in any village centers (or other areas where there is a concentration of residential or commercial uses) due to high development density and challenging lot sizes, perhaps coupled with a desire for nominal growth?

We are in the process of designing a continuation of the Norwich system up Route 32 in our commercial area.

2. Is there a desire to create a new public water system or expand an existing system in your municipality to address water quality concerns?

See 1.

3. Do you know of any examples of water systems in need or experiencing problems, are in need of assistance, or have unmet needs?

No.

4. Where is the movement of water necessary from areas of surplus to areas of need?

Norwich to Additional parts of Franklin

5. Are there areas in your municipality where additional water supply is necessary (due to reduced available water, reduced yields, etc.)?

In the northern section of Franklin in the area of Route 32 and Route 207 where there are comtaminated wells.

6. Do you know of any areas in your municipality where it may be prudent to eliminate small public water systems where nearby expansion of a larger system has occurred?

No.

7. Is there a general desire to reduce the overall number of small water systems in your municipality?

No.

8. Can you identify any potential interconnections or main extensions that could address any of the challenges listed above?

Connecting Windom water with Norwich Water.

9. Have needed water system expansion or upgrades within your municipality been delayed due to lack of funding?

Yes.

10. Please explain any other issues related to public water supply that you believe that the WUCC should consider as part of this planning process.

Richard L. Matters
First Selectman,Town of Franklin
e-mail: franklin@99main.com
Business Hours: Mon - Thur 8:30 am to 3 pm and Tues night 6-8 pm
Phone 860 642 6055 X16 Fax 860 642 6606 Emergency Cell 860 886 3114

MEMO FOR WUCC CHAIRS, DPH, AND THE WATER PLANNING COUNCIL

Rivers Alliance has posted links to the WUCC Preliminary Supply Assessments and printed a copy of each of the three. We will offer the public access to these printed copies.

We will let our network and all other interested persons know that these documents are available for public review. **We thank the consultant for putting together so much data and information in a consistent format.** We would like to offer our members guidance as to how to find, interpret, and check information in these documents. There is indeed a wealth of information assembled therein. But accessing the information in a way that creates a coherent water-supply picture for a given town or basin is extremely difficult because of the way the information is provided. We have found that, **even when we assemble a partial picture of a WUCC supply arrangement, there are inconsistencies and gaps that need to be resolved or filled in.**

We ask you to consider the problems we are encountering with an eye toward making the documents more understandable.

Narrative Paragraphs on the Towns:
Questions That Arise

Is a town a water-supply recipient basin or a supply donor or both? Most people will start with their own towns, probably in Section 2.0 that lists each WUCC town in alphabetical order, with brief information in narrative form. Here reader will find, under the entry for each town, the names of the major water companies *supplying* water to the town; sometimes there is information on which parts of a town are receiving supply from which water-company system (a system name is not necessarily helpful in identifying the water company that owns it). But there is no information on whether the town is a donor basin. For example, the entry for Barkhamsted does not mention the huge Barkhamsted Reservoir. If the town were suddenly in a water crisis, could Barkhamsted people get water from this reservoir? Not clear. The WUCC rationale here is that this narrative section is only for *service* areas. But there is no equivalent by-town narrative for towns that supply water.

If it is not possible to give basic information by town, could it be given by water company? (Basic information would be, for a given area, water in and water out.) It is difficult to get this basic information *anywhere* in these documents. Recipient basins are listed *by town*. Donor basins are listed by water company or water system, *not by town.* Maps that name towns do not show water systems. Maps that show water systems do not name towns. Maps that show source-water watersheds do not name towns or

water companies or water-supply systems. It is hard to imagine a format better designed to prevent people from understanding water-company arrangements affecting their own towns.

How can the reader find the most salient, important characteristics of water supply infrastructure and capacity in a given town? The narratives and other sections of these documents do not address this question, although sometimes one can deduce the answer by turning to other sections. For example, the town of Brookfield appears to hold the state record for number of water systems serving the town: ninety-four (94) !! But that isn't mentioned in the narrative; you have to go to a preceding chart and add the numbers in various columns. Does that mean Brookfield is super well-served? Is everyone in Brookfield on public water? Could there be neighborhoods not reached by any of the 94 companies? Another salient characteristic of water supply in and around Brookfield is the presence of significant amounts of uranium and radon in the ground. Does that mean that all water supply in Brookfield should come from outside the town? Are there any Brookfield water systems that are exporting water? If so, to where?

Inconsistencies and Mysteries re Future Supply Sources and Interconnections (Future Interconnections Have Been Deemed the Key to State Water Planning)

There are two different tables where future interconnections are listed by water companies. There is no readily apparent reason for not listing all planned future interconnections exclusively in one table or at least for having consistent entries. These tables are: **TABLE 2.8 Planned and/or Identified Expansions/Alterations for Community Water Systems Serving >1,000** and **TABLE 2.10 Planned and/or Identified Future Interconnections.** Some proposed interconnections appear in both Table 2.8 and Table 2.10 (the latter usually with more specific information); some appear only in one table. Future interconnections between two water companies may be cited by one company but not the other (an interconnection to nowhere). The direction of flow at the interconnection is not given; the source is not given; and the quantity is not given.

There is not a consistent reciprocity between donor and recipient in anticipated interconnections. Also, some references are too vague for identification of a locale. As examples of reciprocal inconsistency, in the **Western WUUC**, Bristol Water Company lists future interconnections with Torrington Water Company, Southington Water Company, South Central Connecticut Regional Water Authority (SCCRWA), MDC, and Waterbury Water Department. Conversely, however, Waterbury, Torrington, and MDC do not mention any future interconnections with Bristol. In the **Central WUCC,** Southington Water, in Table 2.10, lists three future interconnections, including Bristol in the western WUCC (see above) and two others; the two others are with SCCRWA and New Britain Water. But those two companies do not appear in Table 2.10 in the row where future interconnections are to be listed, and their Table 2.8

expansions do not mention any interconnections with Southington Water. However, Berlin Water Control Commission does lists a future interconnection with Southington Water in Table 2.10. The **Eastern WUCC** document seems generally to be more consistent than the others. Nevertheless, Colchester, in Table 2.10, mentions possible interconnections with *"nearby CWC systems, East Hampton WPCA, and/or Norwich Public Utilities"*. Norwich does not list a future Colchester interconnection in either table. In Table 2.8, Norwich refers vaguely to *"potential regional interconnections"* possible these are potential interconnections with Ledyard and Montville that Norwich mentions in Table 2.10. However, Ledyard and Montville do NOT mentioned Norwich in either tables. In fact, Ledyard specifically says, *"No major system modifications have been identified."*

Ninety-four percent of the community water systems covered in this report say they may need additional water beyond what they have specified in their five-year plans. Although no volumes are given, this is an alarming planning statistic. This water that utilities may wish to divert will have to come from A or AA sources. (Note, not all AA-designated sources are actually being used for water supply at this time.) Where is all this water? Some water companies give a locale for possible future sources; some specify whether the sources would be wells or surface water. For example, both Aquarion and Avon water companies say that they might look to new sources in the Farmington River Valley, and they give the basin number. (One important improvement in these documents would be to give basin numbers and/or town names for all places being referenced.) Is there any high-quality water in the state to which water companies are certain they will not lay claim, at least for 20 to 50 years? How much water is that?

Conclusion

These WUUC documents do not fulfill the promise of their title to be assessments of water supply. They offer a vast amount information in varying formats and varying specificity. This information *now* needs to be assessed. These documents do not as yet provide a suitable platform for designation of exclusive service areas.

Margaret Miner, Executive Director, and Tony Mitchell, Tech and Science Associate
October 4, 2016

MEMO FOR WUCC CHAIRS AND THE WATER PLANNING COUNCIL
FROM RIVERS ALLIANCE

Please consider these comments.

Preliminary Water Supply Assessments

The preliminary assessment documents present reams of information that is now, clearly, in need of assessment. The numerous confusions and contradictions therein should be resolved before these documents are used as the basis of planning. The contradictions cry out for clarification. For example, it is usually impossible to tell whether listed interconnections are aspirational or under contract or somewhere in between; all too often it is not clear from where and to where a proposed interconnection is supposed to run, what quantities of water will be conveyed, and in what direction. As another example, almost all water companies report that, in six or more years, they may need more water than they are claiming in their five-year plans. How many of these statements are serious? Where is all that water supposed to come from?

Interconnections to nowhere and hedging claims on most of the high-quality water in the state are problematic. WUCCs are supposed to *assess problems*, not just reveal them. See the statute. **Sec. 25-33g. Assessment of water supply conditions and problems. Exclusive service area boundaries.** (a) Each water utility coordinating committee, in consultation with the Commissioners of Public Health and Energy and Environmental Protection, the Secretary of the Office of Policy and Management and the Public Utilities Regulatory Authority, shall develop a preliminary assessment of water supply conditions **and problems** within the public water supply management area. [Emphasis added.]

Providing a reliable assessment of conditions and problems is especially important at this time because apparently the state water planners are going to rely on WUCC data; but much significant data in the WUCC preliminary assessments is, at this point, patently unreliable. Moreover, even the good data is unverifiable because, contrary to the statute, the locations of sources need not be disclosed and are, in fact, not being disclosed/. **There is no way to do water supply planning without knowing the location and yield of existing and claimed sources. If the WUCCs honestly feel that disclosure of sources would pose a**

security risk, then the sources should be assessed under a code, such as: Western WUCC Source 1; in Watershed A; yield 3 mgd.; registered diversions in watershed A 4 mgd.; proposed interconnections out of Watershed A, 1 mgd. Just because a WUCC cannot name or give coordinates for sources, does not mean that it has no responsibility to assess the status of these sources vis a vis the extremely valuable ESAs that it will award. (Incidentally, it appears, year in and year out, that revealing locations and yields of sources is not seen as a true security risk, for it is done regularly by utilities in the public press and public presentations, starting with the Groton Drinking Water Quality Management Plan through to the detailed information publicized last week by Waterbury Water department, as it seeks to modify the flow-management plan that concluded the litigation of *Waterbury vs Washington et al.)*

ESAs, Related Discussion in Central WUCC, and MMI FAQ Memo

The term *exclusive service area (esa)* is used with different meanings during discussions of water policy. This was especially apparent in the meeting of the Central Corridor WUCC on September 20, 2016. The confusion begins with the definition is the statute: "An area where public water is supplied by one system (Sec. 25-33h). This is a circular definition. Under this definition, hundreds of exclusive service areas existed before the WUCC law and would continue if the law were to be voided. Wherever a public water system is serving customers, there is, by definition, an exclusive service area.

The confusion was apparent in in the Central WUCC discussion when one manager of a small water system said that she had no esa. This was a logical reaction to WUCC exposition of the lengthy process proposed for acquiring an esa. She knew she had not been through any such process. Yet she had an esa. Such de facto esas are recognized under WUCC rules as true esas.

The WUCC statute, however, refers to *establishing* exclusive service areas through specified (not always clear) WUCC processes. Why would they need to be established if they already exist? One clue may lie in that sometimes exclusive service areas formally recognized by WUCCs and DPH are distinguished from de facto exclusive service areas by use of capitalization; thus, Exclusive Service Areas (ESAs) appear to be esas established under the WUCC statute. This distinction via capitalization appears, for example in MMI's Frequently Asked Questions memo on exclusive service areas (September 20, 2016). However, there is no such distinction in the statute.

Discussions of "exclusive service areas" often bog down because people use the term in different ways. Sometimes the reference is to de facto service areas predating the WUCC statute. Sometimes the reference is to service areas developed post-WUCC law (1985) but with no WUCC

involvement. Sometimes the reference is to claimed service areas that extend well beyond existing service areas. Sometimes the reference is to areas where there are no public water systems at all but where esas might be established in the future.

On the basis of the statutory definition, it would seem impossible for there to be exclusive service areas where there are no service areas. But DPH calls these empty spaces "future" exclusive service areas yet to be assigned. The entire state is blanketed with either existing or future exclusive service areas; the future exclusive service areas will fall under WUCC authority. (The regulations are slightly different than the statute on this point. Regulations say that there shall be no unserviced "islands" unless it can be "demonstrated" that these islands do not now need, and will never in the future need, public water.)

A second problem with the statutory definition of *exclusive service area* is that the term *area* does not mean a continuous, unbroken area within a set of lines. An exclusive service area, say, in a municipality, may have within it smaller, different exclusive service areas. These have been called "doughnut holes" and (if they seem insignificant) "pinpricks." But these nested exclusive service areas are not like doughnut holes or pin pricks because they are not empty space; they are other exclusive service areas. Possibly, there are instances of triple nesting exclusive service areas; there is nothing in the statute or regulation to prohibit it.

The process for altering boundaries of formally or semi-formally recognized exclusive service areas is ambiguous in statute and not clarified in regulation. Usually, DPH and WUCCs have claimed that the best method is for utilities to get together privately and redraw boundaries. This new allocation of sources and customers would need some level of approval by WUCCs or their chairmen, and an OK from DPH. Rivers Alliance has already submitted to you the ambiguous statutory language relating to redrawing esa boundaries subsequent to their approval by DPH. We have asked for your interpretation of this language.

In the MMI memo and elsewhere, WUCC powers and responsibilities linked to exclusive service areas are claimed to be extensive but they are also unclear and apparently unenforceable**.** Recently, WUCC chairmen were surprised when DPH resurrected a long dormant passage in the law that requires anyone starting up a venture that requires a permit for public water to get WUCC approval. The law says that this requirement kicks in as soon as a WUCC has been convened (even if there is no approved WUCC water-supply plan or even a draft plan); the law seems never to have been invoked during many years post 1990, when some WUCCs had been convened but met only rarely.

At any rate, under this authority given to convened WUCCs, new restaurants, condominiums, village centers, commercial subdivisions, public and private schools, and so forth, need WUCC approval for water supply. In return for this privilege, holders of exclusive service areas are supposed to be responsible for supplying water wherever it is needed in its exclusive service area. However, current discussions and DPH actions in recent years indicate that these responsibilities may be impossible to enforce.

The MMI WUCC FAQ Memo (September 20, 2016) has useful information but does not clarify these confusions. It attempts to distinguish between ESAs and esas, which would be helpful if there were such a distinction in the statute. But, as it is, the distinction seems improvised leading to more confusion. For example, this excerpt:

[Question] *If a provider has an established ESA from a prior WUCC, does that automatically transfer to the new Public Water Supply Management Area (PWSMA) and WUCC?*

[Answer] *Previous boundaries were established by four WUCCs in accordance with Section 25-33g. There is no statute or regulation that rescinds established ESAs when PWSMAs are altered. If an existing ESA holder wishes to modify an ESA boundary, or a party is aggrieved regarding an ESA, such parties may approach the WUCC for resolution.*

The reader might wonder: what four WUCCs?; there are three now. There is no indication that some claimed esas are within an approved WUCC; the others are not. Do they have the same legal standing? If a town that was never within a convened WUCC (prior to 2014) has a de facto exclusive service area, has that now changed from an esa to an "ESA"? Does the town have new service responsibilities? When does it have to consult with a WUCC?

One of the most important section of the ESA memo is based entirely upon an interpretation of the law by one of the WUCCs. This is the section titled: *What are the roles and responsibilities of an ESA provider?* The lengthy response is almost entirely an excerpt from the ESA plan of the Southeastern Connecticut WUCC. (This is the WUCC that preceded and was incorporated into the present Eastern WUCC. It is also the only WUCC to have obtained DPH approval for its water supply plan and esas. However, it is now part of a larger area.) According to MMI, this is ESA plan is "the most recent plan of the prior seven PWSMAs." (Seven prior plans?) The excerpt provides considerable detail on WUCC responsibilities, for example: *"The manner in which a public water supplier can serve new customers in its exclusive service area can be simply via main extension or through satellite management (ownership or operation), either on an interim basis until a main extension is provided or on a permanent basis. In all situations, the capital facilities installed must*

meet the design criteria set forth by the appropriate minimum design standards, including pipe sizing and materials, quality, system storage, fire hydrants, and other pertinent factors."

But no single WUCC has standing to interpret the statute and regulations for other WUCCs or other water suppliers and municipalities. To be authoritative, the interpretation should come from an entity with official standing to interpret the law, such as one of the legal departments of the Connecticut General Assembly, counsel to DPH, the AG's office, or the like. At the least, the WUCC interpretation should indicate whether it is referencing the statute, the regulations, DPH guidance (formal or informal), good (or preferred) practices. In conclusion:

- Neither the MMI memo nor the Southeastern Connecticut ESA Plan serves to answer the more knotty questions regarding exclusive service areas.
- The Preliminary Water Supply Assessments need to clarify and evaluate the confusions inherent in the data presented. They should, as the statute requires, assess both conditions and problems. Merely revealing problems is not satisfactory. They should either be resolved or explained.

Margaret Miner, Executive Director, October 18, 2016

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

October 20, 2016

Eastern Region Water Utility Coordinating Committee
c/o Samuel Alexander, Recording Secretary
Northeastern Connecticut Council of Governments
5 Connecticut Avenue
Norwich, CT 06360-1501

RE: Comments on Preliminary Water Supply Assessment

Dear Eastern Region WUCC Chairmen and Members;

Thank you for the opportunity to review the Preliminary Water Supply Assessment (PWSA) for the Eastern WUCC. The Connecticut Department of Energy and Environmental Protection (CTDEEP) is supportive of this opportunity for improved, coordinated drinking water supply planning for the State. We offer the following comments for your consideration:

1. The PWSA pulled together considerable data from existing Water Supply Plans, aggregating at both town and system levels, and this provides a good overall picture of drinking water supply in the state. However, the aggregation makes it difficult to assess and comment specifically on any of the data that went into this evaluation.

2. There are several terms utilized in the PWSA that may be helpful to define or explain for the public. These include "MCL Violation", "Monitoring Violation", "Safe Yield" and "Major Facilities".

3. Note that in the first paragraph of Section 2.4, it discusses margin of safety with respect to available yield, but the second paragraph of the section says it is with respect to safe yield.

4. Several different population projections are presented (State Data Center, DOT, and individual water company projections). What are the differences in assumptions behind those projections? Is there a single one that is most useful, or how would multiple projections be utilized in this process?

5. It is noted that the municipal survey responses in Section 6 are particularly valuable, and an extra effort to obtain responses from the other municipalities is warranted.

6. The state Aquifer Protection Area Program should be discussed in Section 6.3 as an important statewide source protection program.

7. Ensure the State Conservation & Development Policies are addressed throughout the planning process, including the following:

    a. "Manage water resource conflicts by balancing the competing needs of water for human consumption, waste assimilation, habitat sustainability, recreation, power production, agriculture and transporting people and goods"; and

    b. "Rely upon the capacity of the land, to the extent possible, to provide drinking water and wastewater disposal needs beyond the limits of the existing service area. Support the introduction or expansion of public water and/or sewer services or advanced on-site wastewater treatment systems only when there is a demonstrated environmental, public health, public safety, economic, social, or general welfare concern, and then introduce such services only at a scale which responds to the existing need without serving as an attraction to more extensive development".

    The Regional Plans of Conservation & Development should also be reviewed.

8. The CTDEEP encourages the WUCCs to discuss and consider the following during ESA designations and for the Integrated Report:

    a. Consider if it is necessary for entire towns to be encompassed by ESAs, perhaps designating service avoidance areas where the mix of viable, existing private, community and non-community wells are self-sustaining, safe and reliable, and also where there are large tracts of protected open space, such as state parks or low density rural growth.

    b. Acknowledge the viability of satellite systems and smaller sources of supply. Such sources can be maintained as environmentally sustainable sources that have minimal environmental impact and provide resiliency and flexibility for the overall system, especially during emergency situations.

    c. Ensure existing private well areas of natural contaminants (arsenic, uranium, etc), areas of manmade contamination, or other impaired water quality areas are prioritized in ESA designation. CTDEEP will provide data to assist with this assessment.

    d. Although the WUCC regulations do not explicitly include consideration of supply sufficiency to claim an ESA, it is certainly a valid consideration in assessing a water company's ability to supply an area. Supply limitation and/or supply availability should be a limiting factor for the geographic extent of ESA assignment.

    e. CTDEEP supports interconnections among systems, supply sharing and regional solutions to promote resiliency, flexibility and reliability of systems. However:

        i. CTDEEP does not support consolidation of systems such that viable, environmentally sustainable existing sources are abandoned. Retention of existing smaller and mid-sized sources where environmentally compatible, to avoid over-reliance on larger sources, to maintain system supply redundancies and to avoid concentrating environmental impacts is encouraged.

ii. Interconnections should be avoided that extend water into areas more effectively served by private wells or by new local sources with minimal environmental impact.

iii. Transfer of water between major river basins should be avoided.

iv. Interconnections should be consistent with state Conservation & Development policy to avoid inappropriate scattered development and suburban sprawl, and should be at a scale which responds to the existing need without serving as an attraction to more extensive development.

f. Registered diversions have been a concern of CTDEEP's for quite some time, as you are aware. Environmental impacts of the registered diversions were not considered when they were established, and in many cases the volumes registered were much higher than what is sustainable from a resource perspective. Impacts of registered reservoirs will be mitigated considerably by the Stream Flow Standards, but the impacts of groundwater registrations are not affected. The use of the registrations were somewhat limited by the service area previously, but continued consolidation of water companies and expansion of ESAs can potentially increase use of registered water and intensify environmental impacts, especially where inter-basin transfers are involved. Attached is a map of areas where registered diversions for public water supply potentially have significant impact on stream flow. Recommendations on how registrants might reduce drought impacts should be discussed by the WUCCs and recommendations made to the WPC for consideration in the State Water Plan.

g. The use of potable water for non-potable demands such as lawn watering and power plant cooling is becoming more problematic and can create extreme peaking issues for water systems. The State Water Plan will be considering this issue, and any recommendations from the WUCCs on addressing this would be helpful.

h. From CTDEEP's perspective, conservation, non-potable water use and water reuse are important components of all drinking water supply planning and should be promoted in Individual Water Supply Plans, WUCCs, and the State Water Plan. Existing authority and policy can drive conservation, non-potable use, and reuse as necessary, sustainable actions.

i. Consider use of rate structures to drive conservation
   (1) How have the changes to rate structures for the investor-owned systems affected conservation? And can those types of incentives be extended to regional and municipal systems?
   (2) Eliminate declining block rates; Promote seasonal and inclining block rates.

ii. Metering
   (1) Full service metering should be the goal for all WUCCs;
   (2) Use of the new Smart metering technology should be encouraged; and
   (3) Consider setting criteria for water main and source metering.

iii. Consider establishing unaccounted-for-water thresholds or goals.

iv. How can more extensive use of asset management programs and leak detection surveys be encouraged through the WUCC process?

i. Finally, it has become evident during the current drought situation that the triggers set in Individual Water Supply Plans for actions in response to drought may be too low and come too late to be effective. Utilities are coming to DPH and CTDEEP for emergency declarations when little or no previous conservation measures have been taken. While drought response needs to be individualized for a given water system, the WUCCs may wish to evaluate and recommend guidelines for water companies to follow.

If you have any questions on the above comments, please do not hesitate to contact me at (860) 424-3724 or corinne.fitting@ct.gov.

Sincerely,

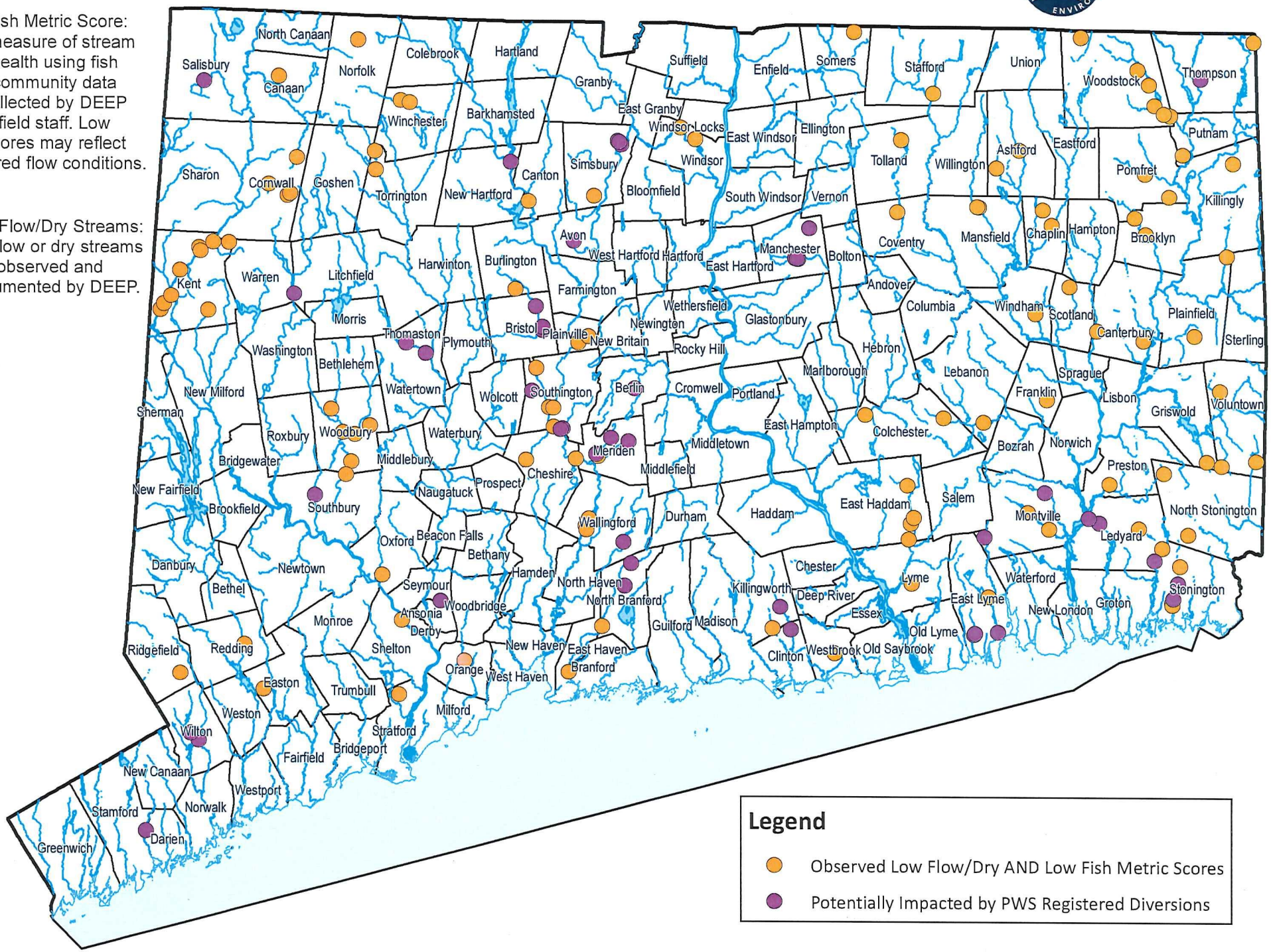
Corinne Fitting
Supervising Environmental Analyst
Division of Water Planning & Management
Bureau of Water Protection & Land Reuse

Attachment

Observed Low Flow/Dry Streams and Low Fish Metric Scores

Fish Metric Score:
A measure of stream health using fish community data collected by DEEP field staff. Low scores may reflect altered flow conditions.

_ow Flow/Dry Streams:
.ow flow or dry streams observed and documented by DEEP.



Legend

- Observed Low Flow/Dry AND Low Fish Metric Scores
- Potentially Impacted by PWS Registered Diversions

Scott Bighinatti

From: David Faist <dfaist@mcclureengineers.com>
Sent: Friday, October 28, 2016 12:37 PM
To: Scott Bighinatti
Subject: FW: Exclusive Service Area Declaration Form - Woodstock CT

HI Scott,

Thank you for getting back to me and answering our question.
I'll pass on the information to our Board of Directors.

You are correct, as our system is small and was only designed for our neighborhood there is little likelihood we would want to serve an area beyond our neighborhood.

David

David Faist, PE
Vice President
McClure Engineering, Inc.
119 Worcester Road
Charlton, MA 01507
T: 508.248.2005 x 20
F: 508.248.4887
E: dfaist@mcclureengineers.com

McCLURE
ENGINEERING, INC

From: David Faist
Sent: Wednesday, October 26, 2016 4:31 PM
To: 'sbighinatti@mminc.com' <sbighinatti@mminc.com>
Subject: Exclusive Service Area Declaration Form - Woodstock CT

Hi Scott,

Just following up to my voice mail message this afternoon.

I live in Woodstock CT and am a member of the Roseland Terrace Water Association.

Our Association just received your mailing regarding the ESA Forms and wanted to find out more information.

Please call me when you get a chance at [redacted] cell phone.
Thank you.

David

David Faist, PE

Vice President
McClure Engineering, Inc.
119 Worcester Road
Charlton, MA 01507
T: 508.248.2005 x 20
F: 508.248.4887
E: dfaist@mcclureengineers.com

McCLURE
ENGINEERING, INC

Dominique Horah-Nanez
21 Bhasking Ridge Road
Wilton, CT 06897
203-820-0751

Dear Members of the Water Utility Coordinating Committee,

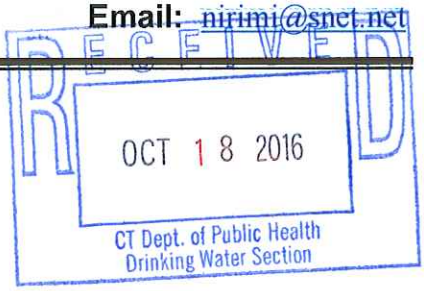
I am writing to you today to urge you in maintaining our Connecticut water supply. Having clean, sustainable water is equal to life and without it, we would surely all die. As our climate continues to change and our resources are threatened, it is doubly important that we protect that which we have left. In this case, Connecticut's water supply. Having foresight when dealing with life and death matters, is an absolute necessity. Ignoring the clear signs that our environment is compromised and our water needs are becoming scare is a farce. We must not give away our water rights to private corporations for profit, when the people who live in this state are in need of what is rightfully theirs. We must protect our water for those of us living here now and for future generations. How can Connecticut even consider selling our water to companies for profit. We must hold on to our resources and protect them. There must be a forum for public comment and laws must be made which protect us, the citizens of the state of connecticut, from profiting companies. Don't forget that this is your country too and your children and their children need this water.

Thank you,

Dominique Horah-Nanez

Paul A. and Nicole R. Michaud
25 Champlain Drive
Old Lyme, CT 06371

Phone & Fax (860) 434-7329 **Email:** nirimi@snet.net



October 14, 2016

Mr. Mark Decker / Mr. Bob Congdon
c/o Drinking Water Section
MS #51 WAT, P.O. Box 340308
Hartford, CT 06134-0308

Dear Sirs,

It has come to our attention that the statewide Water Planning Council and three regional Water Utility Coordinating Committees are in the process of developing a long-term, comprehensive water management for Connecticut.

Our water supply should never be taken for granted and should be protected for the use of the citizens of the state. If in drought condition the private citizens must limit the use of water, so should large private water users. In-state interests must take precedence over exploitation of the supplies for interstate profit.

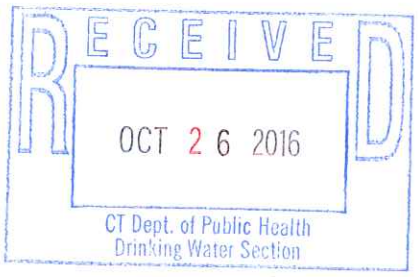
Although business interests must be considered, vigilance and the law must prevent abuses, pollution and waste without making Connecticut inhospitable to employers.

We trust that you will examine all considerations and do what is best for all the citizens of Connecticut.

Yours truly,

Nicole R. Michaud

Paul A. Michaud



Mark Decker
Drinking Water Section
410 Capitol Avenue
MS #51 WAT
P.O.Box340308
Hartford, CT 06134-0308

Sir:

Our state public needs an abundance of clean drinking water. There should be a regional water planning strategy that prioritizes the public water over corporate interests. This is especially important during times of drought.

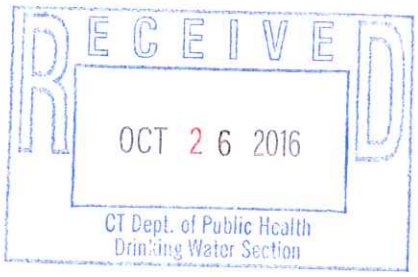
There is a need for environmental protection for the aquifers from chemicals used for fertilization of large tracts of land since these chemicals eventually end up in the water supplies. There has to be a compromise that allows for sustainable economic development while protecting our water.

There should be a requirement that mandates conservation measures for water utility companies and large private users during times of drought.

There should also be provisions that allow public comment during the planning phase and implementation of the water conservation strategy.

Respectfully yours
Lawrence Ghirardi
18
Champlain Dr.
Old Lyme, CT
06371

10/14/2016



Dear Mr. Decker,

I believe Connecticut's c lean water resources are essential to the existence of all living things on our planet. When the government bureaucracy gets in control local stakeholders eventually suffer. Our water resources are too precious to be controlled by opinions not on ground level.

Connecticut needs a regional water planning strategy that:

1. Prioritizes the public's need for clean drinking water supplies over corporate interests, especially during times of drought.
2. Prioritizes environmental protection for our water while allowing for sustainable economic development.
3. Provides ample opportunities for public comment during the plan's development and implementation.
4. Requires water conservation measures for water utilities and large private users.

Thank you,

Francis Ossmann

Francis Ossmann

36 Champlain Drive

Old Lyme, CT 06371

10/14/2016

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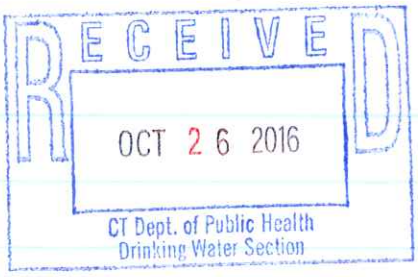
Thank you,

Marilyn Ossmann

36 Champlain Drive

Old Lyme, CT 06371



64 Brown Lane
Old Lyme, CT
06371

Mark Decker
Norwich Public Utilities

October 14, 2016

Dear Mr. Decker,

On behalf of my children and grandchildren I urge you to work towards a regional water planning strategy that puts the public's need for water over corporate use, promotes environmental protection for our State's water, and requires water conservation for large private, corporate and water utility users. Through this planning process I expect to see complete transparency and public participation that is given full credence and power.

Yours truly,
Stephanie Morton

Glenn Bair and Ann Bertini
PO Box 426
Old Lyme CT 06371

Oct 14, 2016

Mark Decker
Norwich Public Utilities
c/o Drinking Water Sf
410 Capitol Ave MS #51WAT
PO Box 340308
Hartford, CT 06371

We are writing to demand proper stewardship of public water resources in Connecticut.

CT needs a regional water planning strategy that:

- Prioritizes the public's need for clean drinking water over corporate interests,
- Prioritizes environmental protection for our water while balancing sustainable economic development, and
- Provides ample opportunities for public comment during planning, development and implementation.

Thank you,
Glenn Bair + Ann Bertini

Paul Field

5 Vaccinium Way

Old Lyme

CT 06371

FAO Mark Decker

Norwich Public Utilities

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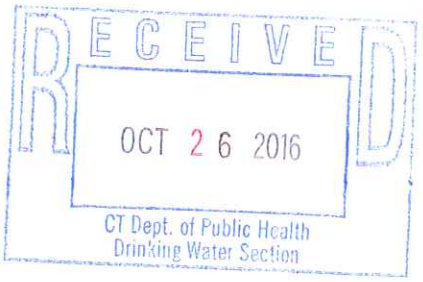

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Norwich Public Utilities

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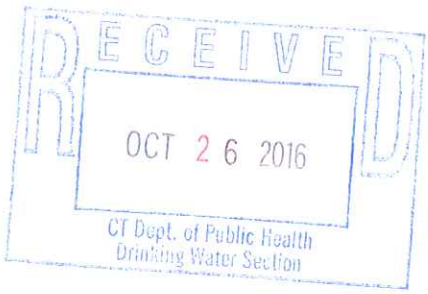
Curt Alpha
12 Azalea Lane
Old Lyme, CT 06371

Eastern WUCC
Mark Decker
Norwich Public Utilities



c/o Drinking Water Section
410 Capitol Avenue
MS 51 WAT
P.O. Box 340308
Hartford, CT 06134-0308

October 14, 2016

Dear Mr. Decker,

As a concerned Connecticut citizen, conscientious state employee, and long-time tax payer, I was horrified to learn that no Connecticut state agency has the authority to limit water withdrawals from large private users. This could be completely disastrous for the public's access to a safe and protected water supply. It is a violation of the public's trust that the State of Connecticut government would not take adequate and far-reaching steps to preserve the public's access to continuing access to clean, safe and affordable drinking water.

It is a short-sighted public policy with potentially devastating consequences. Connecticut's clean and safe water supply belongs in the public's trust and should never be subject to unaccountable or non-limited private usage.

The State of Connecticut needs a regional water planning authority that can be a watchdog to prevent abuse of our water resources by ANY entity – private or public. This is especially critical during times of drought like we have experienced this summer.

I expect you in your capacity to support a comprehensive regional water planning strategy to keep our vital water assets and access in public control and will:

- Prioritize that Connecticut' citizens will have clean, safe affordable drinking water
- Prioritizes environmental protection of all water resources, particularly in times of drought or other scarcity, while allowing for sustainable economic development
- Provide for ample public commentary during plan's development and implementation
- Requires that all large water users, particularly water utilities and large private users, have water conservation measures imposed that are clearly defined and enforceable.

I will be following your support with interest and expect accountability from the Eastern WUCC.

Sincerely,

Lori Sulmasy

Lori Sulmasy
2 Lonicera Court
Old Lyme, CT 06371

Paul Field

5 Vaccinium Way

Old Lyme

CT 06371

FAO Bob Congdon

Town of Preston, CT

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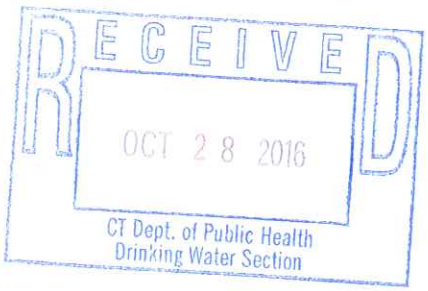

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36 Champlain Drive

Old Lyme, CT 06371

To Whom It may concern:

We believe that water is the most important resource. Without clean water there will be more sicknesses. And with no water — no life can survive! We all need to do our part to be resourceful with the water.

Sincerely,
Pat Adanty

David S. Hovey

273 Mile Creek Rd
Old Lyme, Ct 06371
October 14, 2016

Mark Decker and Bob Congdon

Re: Utilities/Town of Preston

Company: WUCC

Dear Mark Decker and Bob Congdon:

I believe CT's clean water resources are important for keeping the fisheries clean, water sources clean and aquatic life thriving and vibrant. For these reason (plus others) I believe CT's clean water resources should be kept in the public trust.

Sincerely,

David S. Hovey

Robert Congdon
Drinking Water Section
410 Capitol Avenue
MS #51 WAT
P.O.Box340308
Hartford, CT 06134-0308

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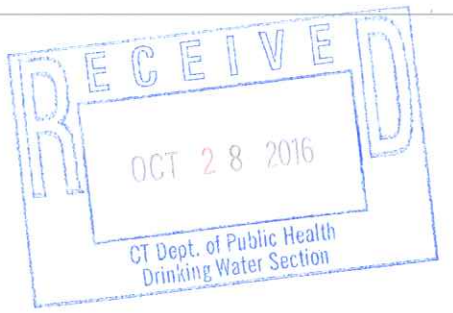

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Lori Sulmasy
2 Lonicera Court
Old Lyme, CT 06371

APPENDIX F

SUMMARY OF CAPACITY DEVELOPMENT ASSESSMENT SCORES

Connecticut Department of Public Health - Drinking Water Section

Public Water System (PWS) Capacity Development Assessment (CDA): Community PWS Serving < 1000 pop.

Public Water System (PWS) Name/Identification (PWSID)	
PWS Electronic Mail Address	
Name/Title - Owner or Owner's Representative	
Certified Operator	

Technical CDA Requirements/Regulatory References	Value	Comments	Points
T1. Significant Deficiencies (SD)?; One or more = 0 points; None = 35 points; *RCSA 19-13-B102(e)(7)(E)(iv)(I thru IV)*			
T2. Minor Deficiencies (MD)? [Y N]; Includes water meters, sample taps, failure to: a) conduct routine operations and maintenance (valve exercise, storage tank inspection & maintenance, flushing, etc.); b) maintain representative records; c) maintain updated distribution map? None = 25 points; One or more = Subtract 5 points per MSD; *RCSA 19-13-B102(l) (1)(A-U);RCSA19-13-B102(n)(1-5); RCSA19-13- B102(u); RCSA 19-13-B102(v)*			
T3. Maximum Contaminant Level (MCL) violations incurred within the past 12 month period?; No = 10 points; Yes = 0 points; *RCSA 19-13-B102(e)*			
T4. Source(s), pump(s), storage tank(s), treatment systems, and distribution able to regularly meet current and future expected system demands with more than one active source of supply or suitable back-up (interconnection)?; Yes = 20 points; No = 0 points; *RCSA 19-13-B102(o);RCSA 19-13-B102(p)*			
T5. PWS owns or controls required sanitary radii and setback distances for sources of supply?; Yes – 10 points; No – 0 points; *RCSA 19-13-B51(d)*			
Technical Capacity Development Assessment Score:			

Managerial CDA Requirements/ Regulatory References	Value	Comments	Points
M1. Monitoring & Reporting (M & R) violations in prior 12 month period? No = 10 points; Yes = 0 points; *RCSA 19-13-B102(e)*			
M2. Treatment Technique (TT) violations incurred within the prior 12 month time period? No = 10 points; Yes = 0 points; *RCSA 19-13-B102(e)(7)(E)(vi)(I and II)*			
M3. PWS on the EPA's Enforcement Targeting Tool (ETT) list within prior 12 month time period?; Zero= 30 points; 0 points if ETT >/= 11; 5 points if 6 </= ETT </=10			
M4. Certified operator present at the sanitary survey?; Yes = 10 points; No = 0 points; *19-13-B102(e)(7)(E)(i)(VI)*			
M5. PWS has a system sufficiency plan developed and in-place including the ability to obtain more than one active source of supply (or a suitable back-up like an interconnection)?; Yes – 10 points; No – 0 points; *RCSA 19-13-B102(o)*			
M6. PWS has a program to reduce unaccounted for water usage and meter calibration in-place?; Yes = 1 point; No = 0 points; *RCSA 19-13-B102(s)*			

M7. PWS satisfies the annual notification of emergency contact numbers and arrangement of emergency crews or contracted vendors?; Yes = 1 point; No = 0 points; *RCSA 19-13-B102(r)*			
M8. PWS by-laws, resolutions, or ordinances reviewed at least biennially?; Yes = 1 point; N = 0 points			
M9. Individuals deemed in direct responsible charge are clearly defined and legally empowered in by-laws or by ordinances to act on behalf of the PWS? Yes = 2 points; No = 0 points			
M10. Emergency power capability (generator, transfer switch) or contractual arrangements with a DPH licensed bulk water hauler?; Yes – 15 points; No – 0 points			
M11. Site map that designates water company lands and the location of the sources of supply and the proximity to potential sources of contamination made available?; Yes – 10 points; No - 0 points; *RCSA 19-13-B102(e)(7)(E)(i)(III-V)*			
Managerial Capacity Development Assessment Score:			

Financial CDA Requirements/ Regulatory References	Value	Comments	Points
F1. PWS has a rate structure or rate setting plan that addresses the 'full cost pricing' of water and reserve fund?; Yes = 20 points; No = 0 points			
F2. PWS conducts a 'full cost to do business' analysis (i.e. completes EPA's "Setting Small Drinking Water Rates for a Sustainable Future" Annual Costs Worksheet annually)?; Yes = 20 points; No = 0 points			
F3. PWS develops and calculates revenues required for 'full cost to do business' (i.e. complete the EPA's "Setting Small Drinking Water Rates for Sustainable Future" Annual Revenue Worksheet each year)?; Yes = 20 points; No = 0 points			
F4. PWS has rules, regulations, by-laws that set procedures and a process to conduct billing and address delinquent payments?; Yes = 20 points; No = 0 points			
F5. PWS has an Asset Management (AM) plan and current water rates and rate structures produce adequate income for asset replacement and system rehabilitation?; Yes = 15 points; No = 0 points			
F6. PWS has the legal authority to levy special assessments on customers for unexpected large expenses?; Yes = 5 points; No = 0 points			
Financial Capacity Development Assessment Score:			

Capacity Scorecard Rating = (Technical [T] + Managerial [M] + Financial [F])/ 3 =

Risk Level: 70 to 100 = **LOW**; 40 to 69 = **MODERATE**; 0 to 39 = **HIGH**

Capacity Assessment Query

Friday, September 23, 2016
1:13:41 PM

Town	PWSID #	Public Water System	Total Capacity Score	Technical Score	Managerial Score	Financial Score	WUCC
ASHFORD	CT0037001	EVANGELICAL CHRISTIAN CENTER - MAIN	**49**	50	57	40	EASTERN
ASHFORD	CT0030021	PERRY HILL ESTATES APARTMENTS INC.	**52**	45	72	40	EASTERN
ASHFORD	CT0030041	BIRCH HILLS CONDOMINIUMS	**60**	70	72	40	EASTERN
ASHFORD	CT0030051	WOODLAWN APARTMENTS, LLC	**54**	65	57	40	EASTERN
ASHFORD	CT0030011	ASHFORD HILLS APARTMENTS	**41**	30	55	40	EASTERN
ASHFORD	CT0030061	MAR-LEA PARK APTS	**58**	80	56	40	EASTERN
BROOKLYN	CT0199091	GORMAN ROAD APARTMENTS	**70**	90	82	40	EASTERN
BROOKLYN	CT0190051	BROOKLYN MANOR	**55**	65	60	40	EASTERN
CANTERBURY	CT0220191	KNOLLBROOK VILLAGE ELDERLY HOUSING	**75**	50	82	95	EASTERN
CANTERBURY	CT0229031	CAMPBELL HEIGHTS APARTMENTS - SYSTEM #2	**48**	25	81	40	EASTERN
CANTERBURY	CT0220011	LONGVIEW ESTATES, LLC	**65**	95	60	40	EASTERN
CHAPLIN	CT0248011	CHAPLIN WOODS CONDOMINIUMS	**77**	95	97	40	EASTERN
COLCHESTER	CT0280031	WESTCHESTER HILLS CONDOMINIUM ASSN.	**57**	50	82	40	EASTERN
COLCHESTER	CT0280041	GAIA GARDENS	**69**	40	74	95	EASTERN
COLCHESTER	CT0280061	KNOB HILL CONDOMINIUMS, WELL #5	**78**	70	71	95	EASTERN
COLCHESTER	CT0286011	COLCHESTER COMMONS	**81**	60	90	95	EASTERN
COLCHESTER	CT0280051	KNOB HILL CONDOMINIUMS	**75**	50	82	95	EASTERN
COVENTRY	CT0320181	COVENTRY HOUSING AUTHORITY-UPPER SYSTEM	**83**	85	84	80	EASTERN
COVENTRY	CT0320051	SOUTH COVENTRY WATER SUPPLY COMPANY	**85**	80	82	95	EASTERN
COVENTRY	CT0320061	TWIN HILLS WATER DISTRICT	**37**	20	72	20	EASTERN
COVENTRY	CT0320171	COVENTRY HOUSING AUTHORITY-LOWER SYSTEM	**84**	90	83	80	EASTERN
GRISWOLD	CT0580031	LAKEVIEW MOBILE HOME PARK	**50**	65	46	40	EASTERN

Town	PWSID #	Public Water System	Total Capacity Score	Technical Score	Managerial Score	Financial Score	WUCC
GRISWOLD	CT0580061	CONNOLLYS TRAILER PARK	**70**	90	81	40	EASTERN
GROTON	CT0597021	ROGERS MOBILE HOME PARK - GROTON	**48**	50	56	40	EASTERN
GROTON	CT0598011	WHIPPLES MOBILE HOME PARK	**38**	25	71	20	EASTERN
GROTON	CT0590071	COLONIAL EFFICIENCY APARTMENTS	**50**	45	66	40	EASTERN
KILLINGLY	CT0691011	WESTVIEW NURSING CARE & REHAB CTR, INC.	**82**	70	97	80	EASTERN
KILLINGLY	CT0690141	CRANBERRY BOG APARTMENTS	**48**	50	55	40	EASTERN
KILLINGLY	CT0690051	FALL BROOK MOBILE HOME PARK	**60**	60	81	40	EASTERN
KILLINGLY	CT0690061	COUNTRY ACRES PARK	**63**	80	71	40	EASTERN
KILLINGLY	CT0690071	CONRADS PARK	**53**	55	66	40	EASTERN
LEBANON	CT0710011	CAREFREE HOMEOWNERS ASSOCIATION	**67**	50	71	80	EASTERN
LEBANON	CT0711001	VILLAGE HILL APARTMENTS	**71**	95	80	40	EASTERN
LEDYARD	CT0720011	SCWA, BARRETT DIVISION (BAR)	**89**	85	89	95	EASTERN
LEDYARD	CT0720081	SCWA, GRAY FARMS DIVISION (GRF)	**88**	80	89	95	EASTERN
LEDYARD	CT0720101	ASH WATER COMPANY, LLC	**90**	95	97	80	EASTERN
LEDYARD	CT0720313	SCWA, LEDYARD CENTER DIVISION	**91**	90	89	95	EASTERN
LEDYARD	CT0727031	SCWA, CHRISWOOD DIVISION (CWD)	**89**	85	89	95	EASTERN
LISBON	CT0731011	TUNNEL HILL MOBILE HOME PARK	**60**	45	82	55	EASTERN
LISBON	CT0731021	ROUND HILL LLC - WELL# 1	**58**	80	55	40	EASTERN
LISBON	CT0730031	LISBON MOBILE HOMES	**67**	90	71	40	EASTERN
LISBON	CT0731031	ROUND HILL LLC - WELL# 2	**61**	75	70	40	EASTERN
MONTVILLE	CT0860131	SCWA, HILLCREST DIVISION (HLC)	**89**	85	89	95	EASTERN
MONTVILLE	CT0861021	MEADOWS APARTMENTS	**42**	25	62	40	EASTERN
MONTVILLE	CT0869131	261 & 263-271 ROUTE 163	**36**	10	60	40	EASTERN
MONTVILLE	CT0867071	THOMPSON HILL WATER CO - BEECHWOOD ACRES	**60**	30	72	80	EASTERN
MONTVILLE	CT0866301	FREEDOM VILLAGE ELDERLY HOUSING	**86**	75	90	95	EASTERN

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MONTVILLE	CT0866051	STONY BROOK MOBILE HOME PARK	**58**	80	56	40	EASTERN
MONTVILLE	CT0861251	ST. THOMAS MORE SCHOOL-MAIN SYSTEM	**67**	90	56	55	EASTERN
MONTVILLE	CT0861111	FOX LAUREL MOBILE HOME PARK, LLC	**70**	90	81	40	EASTERN
MONTVILLE	CT0868011	ST. THOMAS MORE SCHOOL-THE COVE	**63**	80	56	55	EASTERN
MONTVILLE	CT0861051	MOUNTVIEW APARTMENTS	**49**	40	67	40	EASTERN
MONTVILLE	CT0867101	SCWA, ROBIN HILL DIVISION (RBN)	**93**	95	89	95	EASTERN
MONTVILLE	CT0860211	OAKRIDGE VILLAGE	**63**	95	56	40	EASTERN
MONTVILLE	CT0860191	INDEPENDENCE VILLAGE ELDERLY HOUSING	**96**	95	99	95	EASTERN
MONTVILLE	CT0860141	JENSENS, INC. MARINA COVE RESIDENTIAL	**77**	80	57	95	EASTERN
MONTVILLE	CT0860091	LAKESIDE MANOR APARTMENTS	**63**	85	65	40	EASTERN
MONTVILLE	CT0860081	SCWA, CHESTERFIELD DIVISION	**88**	80	89	95	EASTERN
MONTVILLE	CT0860051	DEER RUN SUPPLY	**45**	35	60	40	EASTERN
MONTVILLE	CT0860041	KITEMAUG ORCHARD ASSOCIATION, INC.	**47**	45	57	40	EASTERN
MONTVILLE	CT0860031	OAKDALE HEIGHTS ASSOCIATION, INC	**58**	75	61	40	EASTERN
MONTVILLE	CT0869011	SCWA, BIRCHWOOD DIVISION (BWD)	**89**	85	89	95	EASTERN
MONTVILLE	CT0869121	SCWA, SEVEN OAKS (OAK)	**88**	95	74	95	EASTERN
MONTVILLE	CT0860171	OAKRIDGE GARDENS, LLC	**55**	100	25	40	EASTERN
NORTH STONINGTON	CT1021001	NORTHSTONE GARDENS	**38**	20	56	40	EASTERN
NORTH STONINGTON	CT1020011	SCWA, CEDAR RIDGE DIVISION	**86**	75	89	95	EASTERN
NORWICH	CT1041021	PLEASURE VALLEY M.H.P. - SYSTEM #2	**73**	95	86	40	EASTERN
NORWICH	CT1041001	PLEASURE VALLEY M.H.P. - SYSTEM #1	**73**	95	86	40	EASTERN
NORWICH	CT1041031	PLEASURE VALLEY M.H.P. - SYSTEM #3	**72**	90	86	40	EASTERN
NORWICH	CT1040061	COUNTRYSIDE DRIVE ASSOCIATION	**77**	85	81	65	EASTERN

Town	PWSID #	Public Water System	Total Capacity Score	Technical Score	Managerial Score	Financial Score	WUCC
NORWICH	CT1040091	SUNNY WATERS MOBILE HOME PARK	**72**	95	82	40	EASTERN
PLAINFIELD	CT1090161	WESTVIEW TERRACE MOBILE HOME PARK	**46**	25	75	40	EASTERN
PLAINFIELD	CT1090221	MOOSUP GARDEN APARTMENTS	**67**	90	73	40	EASTERN
PLAINFIELD	CT1090271	PICKETT ROAD APARTMENTS	**52**	60	56	40	EASTERN
PLAINFIELD	CT1094201	JUMBO APARTMENTS	**65**	75	81	40	EASTERN
PLAINFIELD	CT1099141	ARNIO DRIVE LLC	**57**	65	66	40	EASTERN
PLAINFIELD	CT1099131	MOOSUP MANOR	**67**	80	41	80	EASTERN
PLAINFIELD	CT1099181	MOOSUP POND TERRACE, LLC	**57**	50	82	40	EASTERN
POMFRET	CT1120041	COUNTRY MANOR	**28**	15	31	40	EASTERN
POMFRET	CT1121011	WOODLAND APARTMENTS	**50**	45	67	40	EASTERN
POMFRET	CT1120051	POMFRET SCHOOL	**75**	50	81	95	EASTERN
POMFRET	CT1121131	SEELY - BROWN VILLAGE	**67**	55	66	80	EASTERN
POMFRET	CT1120061	THE RECTORY SCHOOL	**65**	85	57	55	EASTERN
PRESTON	CT1140471	STRAWBERRY PARK	**46**	40	59	40	EASTERN
PRESTON	CT1140011	PRESTON PLAINS WATER COMPANY	**80**	50	97	95	EASTERN
PRESTON	CT1140021	LINCOLN PARK ELDERLY HOUSING	**84**	75	84	95	EASTERN
PUTNAM	CT1160021	MATULAITIS NURSING HOME	**67**	40	81	80	EASTERN
SALEM	CT1210011	SALEM MANOR CONDOMINIUMS, SYSTEM #1	**54**	60	62	40	EASTERN
SALEM	CT1210021	CRYSTAL LAKE CONDOMINIUMS	**62**	75	72	40	EASTERN
SALEM	CT1219111	SALEM MANOR CONDOMINIUMS, SYSTEM #2	**57**	60	72	40	EASTERN
STERLING	CT1360074	GIBSON HILL PARK	**56**	60	70	40	EASTERN
STERLING	CT1360011	STERLING WATER SYSTEM	**83**	100	50	100	EASTERN
STONINGTON	CT1378011	CLASSEE WATER SYSTEM - LATIMER POINT	**55**	60	66	40	EASTERN
STONINGTON	CT1370021	SCWA, LANTERN HILL DIVISION (LNH)	**81**	60	89	95	EASTERN
STONINGTON	CT1370071	ARLINGTON ACRES MANUFACT HOUSE COMM, LLC	**79**	100	97	40	EASTERN

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THOMPSON	CT1419081	MARIANAPOLIS PREP SCHOOL -ST ALBERTS	**74**	55	72	95	EASTERN
THOMPSON	CT1411041	QUINEBAUG MOBILE HOME PARK	**49**	40	67	40	EASTERN
THOMPSON	CT1410661	THOMPSON HILL WATER CO - PAULA LANE DIV	**64**	65	47	80	EASTERN
THOMPSON	CT1410051	MARIANAPOLIS PREP SCHOOL - ST JOHNS	**90**	95	82	95	EASTERN
THOMPSON	CT1419071	JUSTICE RESOURCE INSTITUTE, INC.	**65**	95	45	55	EASTERN
VOLUNTOWN	CT1479021	VOLUNTOWN HOUSING AUTHORITY	**60**	55	46	80	EASTERN
WATERFORD	CT1520061	WATERFORD COUNTRY SCHOOL, INC.	**79**	85	97	55	EASTERN
WILLINGTON	CT1609141	WILLINGTON SENIOR CENTER & HOUSING	**92**	85	97	95	EASTERN
WILLINGTON	CT1606211	WILLINGTON RIDGE CONDOS - SYSTEM #2	**73**	85	81	55	EASTERN
WILLINGTON	CT1600031	WOODHAVEN APARTMENTS	**32**	25	32	40	EASTERN
WILLINGTON	CT1600101	NATURAL PARK APARTMENTS, LLC	**64**	70	82	40	EASTERN
WILLINGTON	CT1600021	WILLINGTON OAKS APARTMENTS	**65**	85	71	40	EASTERN
WILLINGTON	CT1600041	WALDEN APARTMENTS	**62**	80	67	40	EASTERN
WILLINGTON	CT1600061	NORTH WILLINGTON VILLAGE CONDO ASSOC.	**53**	70	50	40	EASTERN
WILLINGTON	CT1606111	WILLINGTON RIDGE CONDOS - SYSTEM #1	**75**	90	81	55	EASTERN
WILLINGTON	CT1600071	DEER PARK APARTMENTS	**50**	45	67	40	EASTERN
WILLINGTON	CT1600081	CEDAR RIDGE APARTMENTS	**70**	90	82	40	EASTERN
WILLINGTON	CT1600051	RIDGEVIEW HEIGHTS	**59**	55	82	40	EASTERN
WINDHAM	CT1631031	DOUGLAS MANOR	**82**	95	72	80	EASTERN
WINDHAM	CT1630021	WYNDHAM PARK APARTMENTS	**61**	95	50	40	EASTERN
WOODSTOCK	CT1699081	FAWN RIDGE ASSOCIATION INC.	**45**	40	56	40	EASTERN
WOODSTOCK	CT1691171	HYDE SCHOOL - SYSTEM #2 (RESIDENTIAL)	**93**	100	85	95	EASTERN
WOODSTOCK	CT1690031	WOODSTOCK HOUSING AUTHORITY	**65**	45	57	95	EASTERN

Town	PWSID #	Public Water System	Total Capacity Score	Technical Score	Managerial Score	Financial Score	WUCC
WOODSTOCK	CT1690021	ROSELAND TERRACE ASSOCIATION, INC.	**46**	35	64	40	EASTERN
WOODSTOCK	CT1699011	BROOKWOOD APARTMENTS	**52**	50	67	40	EASTERN
WOODSTOCK	CT1698041	PINECREST CONDOMINIUMS	**72**	80	97	40	EASTERN
WOODSTOCK	CT1698011	WOODSTOCK MEADOWS CONDOMINIUM ASSN.	**70**	90	81	40	EASTERN
WOODSTOCK	CT1699061	SOLAIR RECREATIONAL LEAGUE - LOWER RIDGE	**60**	85	56	40	EASTERN

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