



Monthly Meeting #18

Coordinated Water System Plan Eastern Region

Southeastern Connecticut Council of Governments, Norwich, CT | November 18, 2017

Agenda



1. Welcome & Roll Call (5 minutes)
2. Approval of October Meeting Minutes (5 minutes)
3. Formal Correspondence (5 minutes)
4. Public Comment Period (10 minutes)
5. ESA Modifications Discussion / Update (5 minutes)
 - Town of Lebanon – 894 Exeter Road
6. Integrated Report Topics (85 minutes)
 - Potential Impacts of the Plan on Other Uses of Water Resources
 - Regional Projected Service Population, Safe Yield, Excess Water
 - Consistency with Other Planning Efforts
7. Other Business (5 minutes)



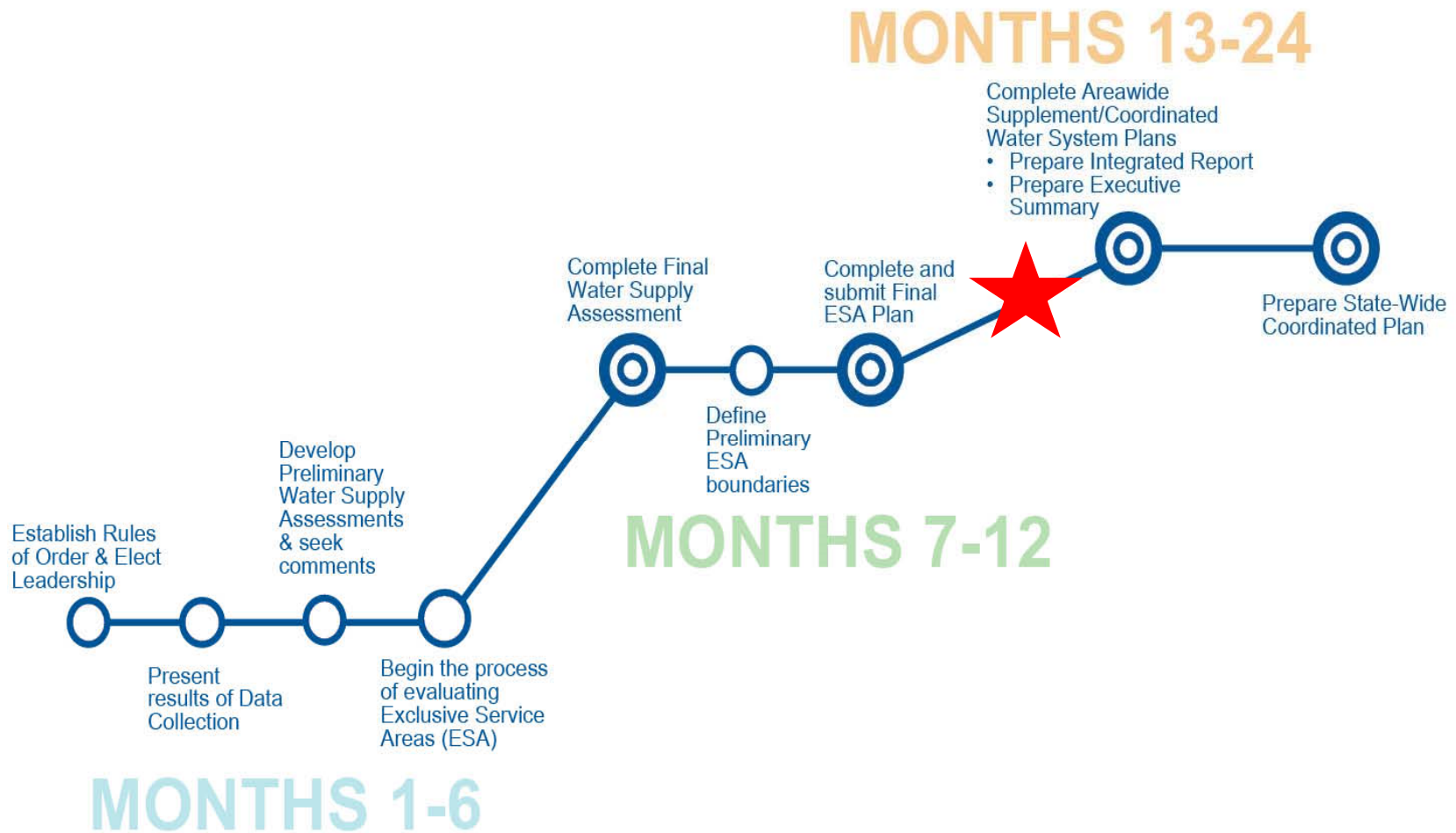
1. Welcome and Roll Call

Taking Stock



- ***What Have We Accomplished?***
 - ✓ Discussed Integrated Report Modules #1 through #13
- ***What Are We Doing Today?***
 - ✓ Discussing a potential ESA modification in Lebanon
 - ✓ Discussing Integrated Report Modules #14 through 16
- ***What's Next?***
 - ✓ Review Draft Integrated Report

WUCC Time Frame



2. Approval of Meeting Minutes

3. Formal Correspondence

Formal Correspondence

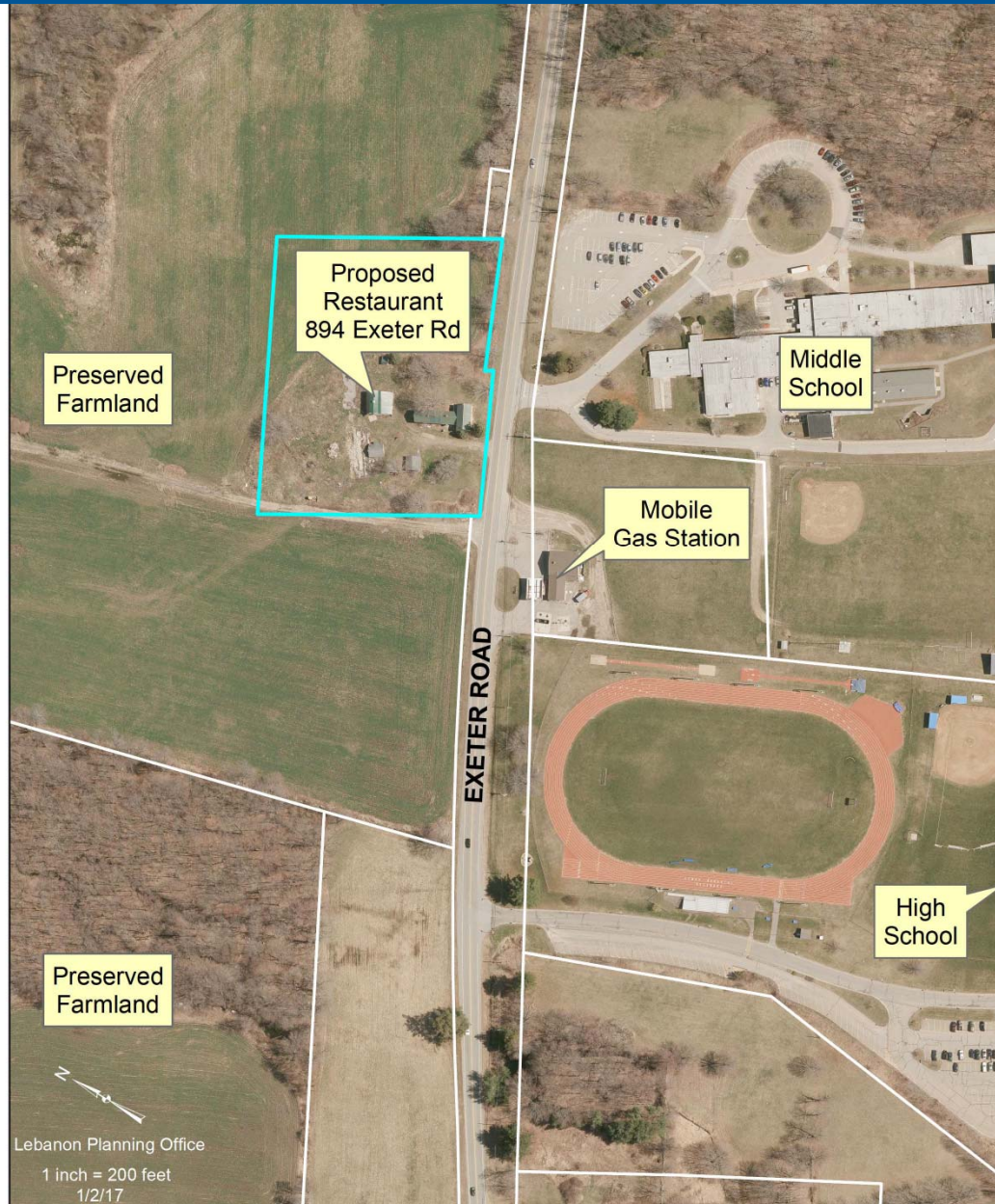


Date	From	To	Main Topic(s)
11/2/2017	Town of Lebanon First Selectman	Eastern WUCC	Request to modify ESA in Lebanon to allow creation of a new restaurant
11/6/2017	New London Dept. of Utilities & Waterford WPCA	MMI	Requested data for Integrated Report
11/7/2017	Ledyard WPCA	Eastern WUCC	Requested data for Integrated Report
11/7/2017	Aquarion WC	MMI	Requested data for Integrated Report
11/8/2017	Windham Water Works	MMI	Requested data for Integrated Report and Responses to modules 15 & 16

4. Public Comment Period

5. ESA Modifications Discussion / Updates

ESA Map



6. Integrated Report Topics

Topic Schedule



WSA	Stat.	Reg.	Task	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			State Water Plan summary	X	X					
			Request and receive data from utilities	X	X	X	X	X	X	
✓			Maintenance and replacement of existing supply sources / asset management (aging infrastructure)	X	X					
✓		✓	Financial Considerations / declining revenue vs. increasing costs		X					
✓	✓		Coordination of planning (between systems, with towns, across ESA boundaries)		X					
✓		✓	Source Water Protection			X				
	✓	✓	Joint Use, Management, or Ownership of Facilities, Shared Resources			X				
✓			Lack of fire protection			X				
✓	✓		Water Conservation / Drought Planning / High volume users / Increasing peaking ratios			X				
✓	✓	✓	Satellite Management / Small System challenges and viability				X			
		✓	Minimum Design Standards				X			
✓	✓	✓	Future Sources / Raw Well Water Quality / Acquisition of land for new stratified drift wells				X	X		
✓	✓	✓	Future Interconnections and Impact (including WQ) / disjointed service areas / integration					X	X	
✓			Impacts of Climate Change					X		
✓			Impacts of Existing and Future Regulations					X		
	✓	✓	Potential Impacts on Other Use of Water Resources, including WQ, Flood Management, Recreation, Hydropower, and Aquatic Habitat Issues						X	
		✓	Regional Population and Service Ratio, Consumption by Demand Category, Safe Yield (Impacts of Streamflow Regulations), Excess Water						X	
	✓	✓	Compatibility with local, regional, and state plans						X	
✓			Other issues						X	

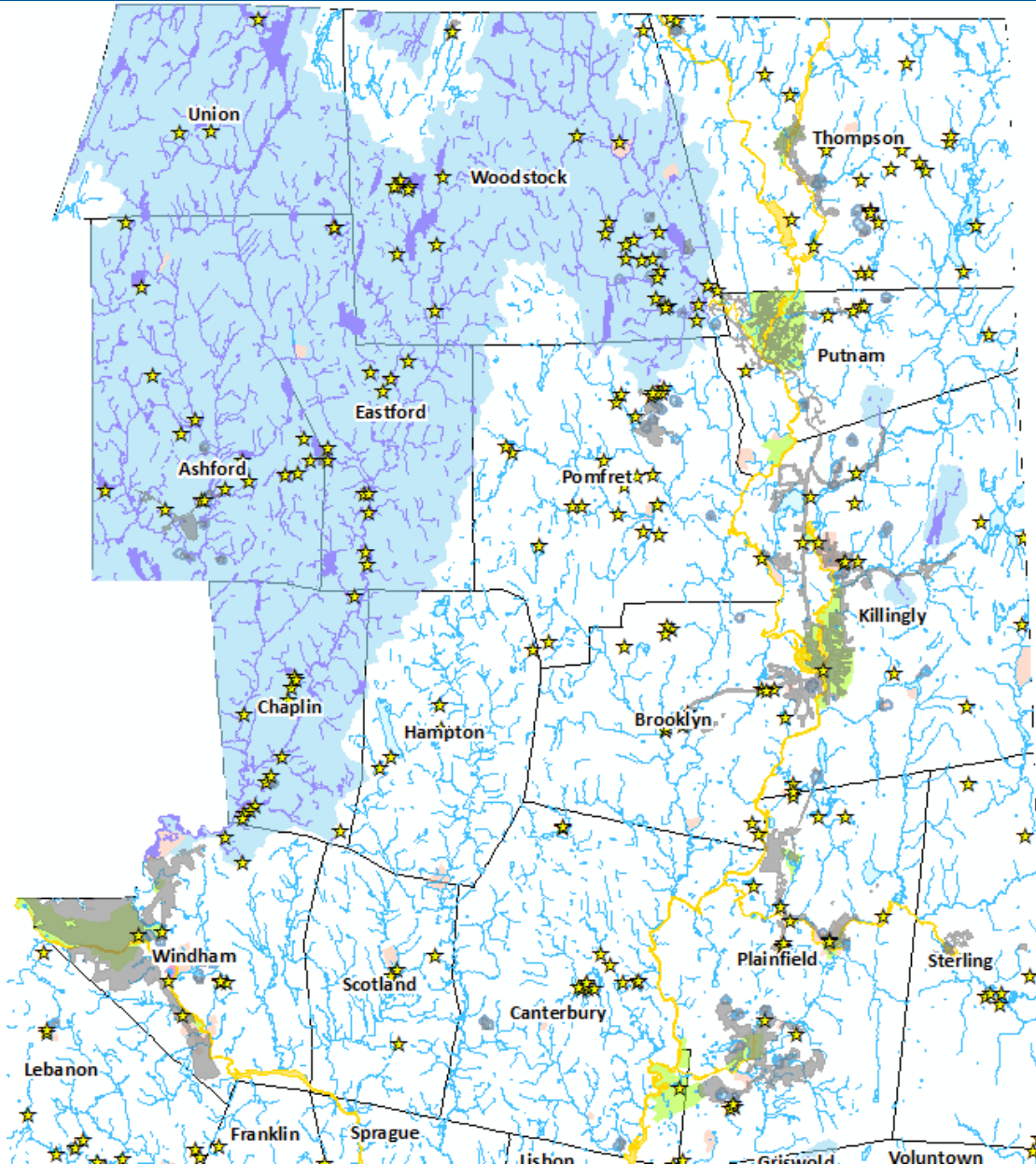
Module #14 – Potential Impacts



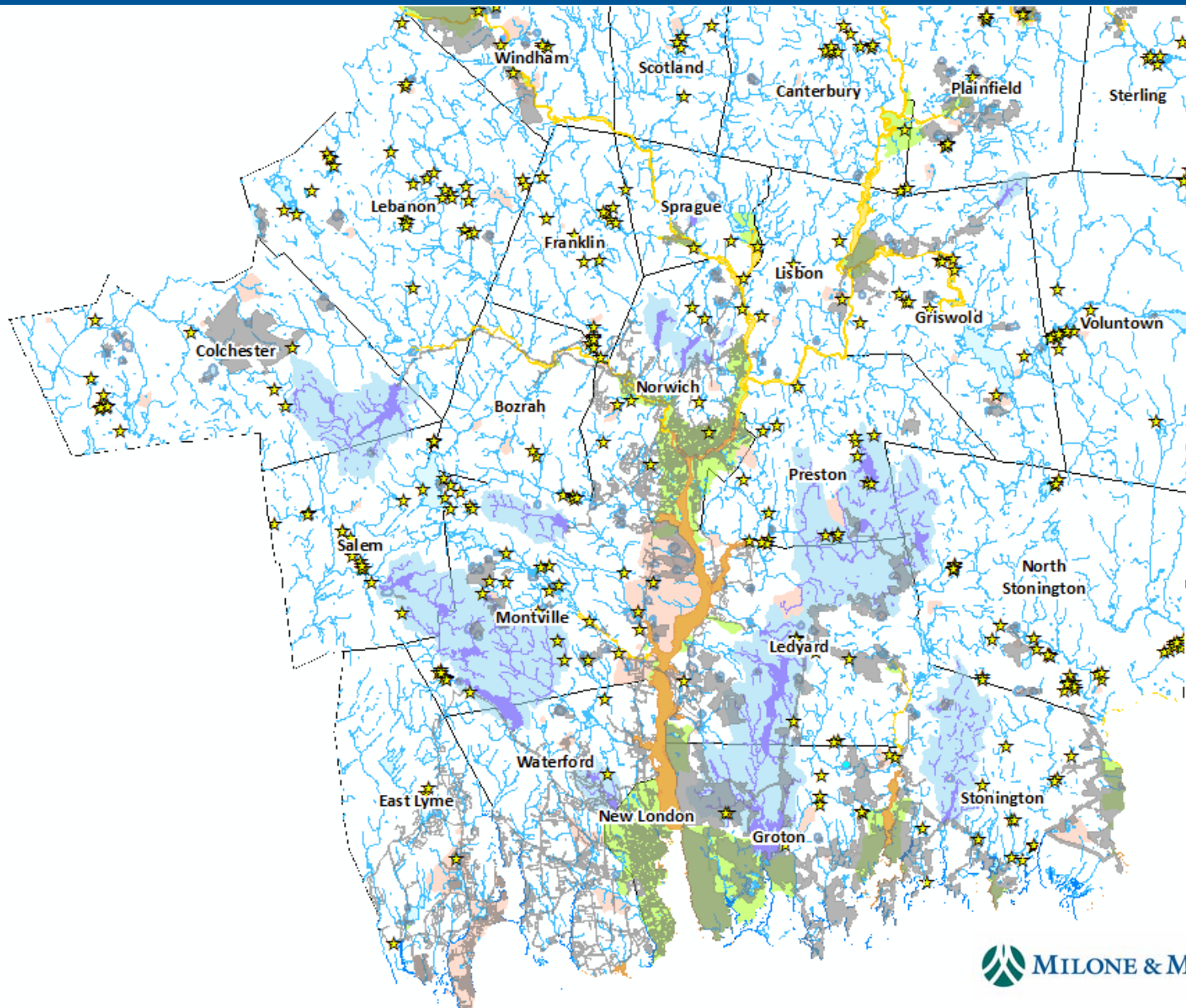
- Water Quality: Sewage treatment
- Flood Management: Dams, protection of infrastructure
- Recreation: Boating, fishing, wading, and passive uses
- Hydropower: Flow and head needed
- Aquatic Habitat: Stress on organisms such as fish and macroinvertebrates
- Site-specific analyses not appropriate for regional scale planning
- Planning-level analyses to help determine prioritization of actions

CWSP regulations require “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”
RCSA 25-33h-1(d)(C)(ix)

Module #14 – Water Quality



Module #14 – Water Quality



Module #14 – Water Quality



- French River, Mill River, Moosup River, Pawcatuck River, Shetucket River, Quinebaug River, Thames River, Whiteford Brook, and Yantic River are waste receiving streams
- Additional withdrawals could impede waste assimilation capacity
- Project-specific effects to be evaluated when water supply project proposed:
 - Type of withdrawal (surface vs. ground)
 - Wasteload assimilation capacity remaining
 - Cumulative effects with other non-sewage discharges (e.g. cooling water)
 - Benefit of providing clean water to users in areas of poor groundwater quality

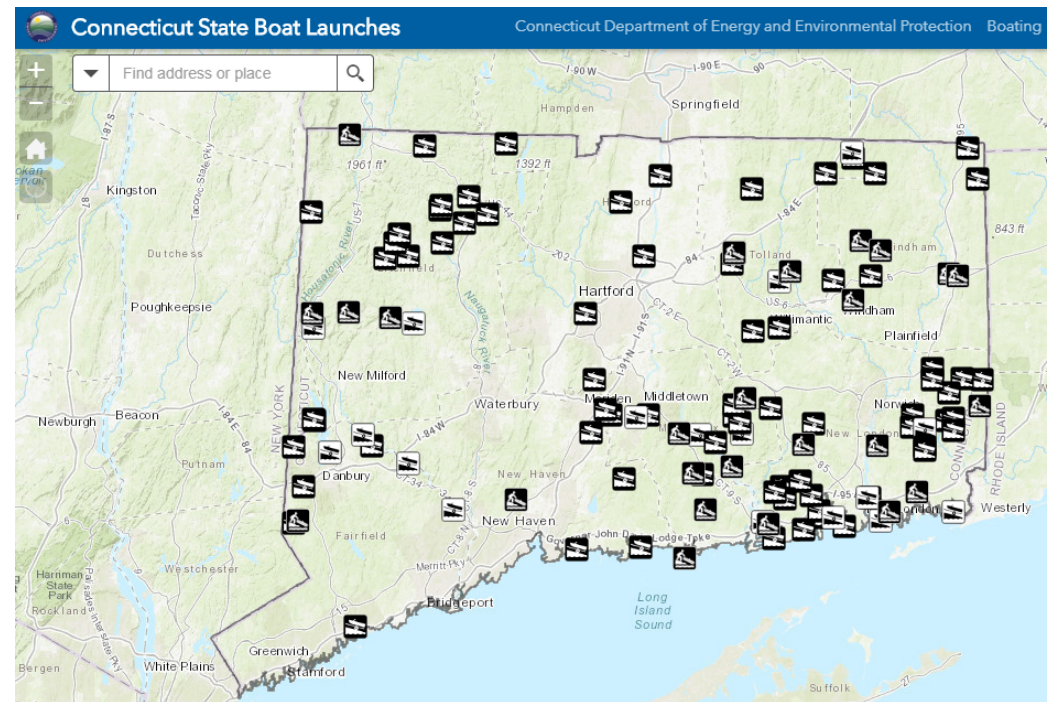
Module #14 – Flood Management



- New surface water impoundments not currently proposed
- Any dam modifications should consider recently calculated rainfall extremes / hydrology and potential downstream impacts, as well as the recent modifications to the Dam Safety Regulations
- Larger concern for flood management relates to infrastructure which may be in areas of flood risk
- Building permits require demonstration of compliance with flood standards
 - Need to ensure that project does not impact downstream flood heights

Module #14 – Recreation

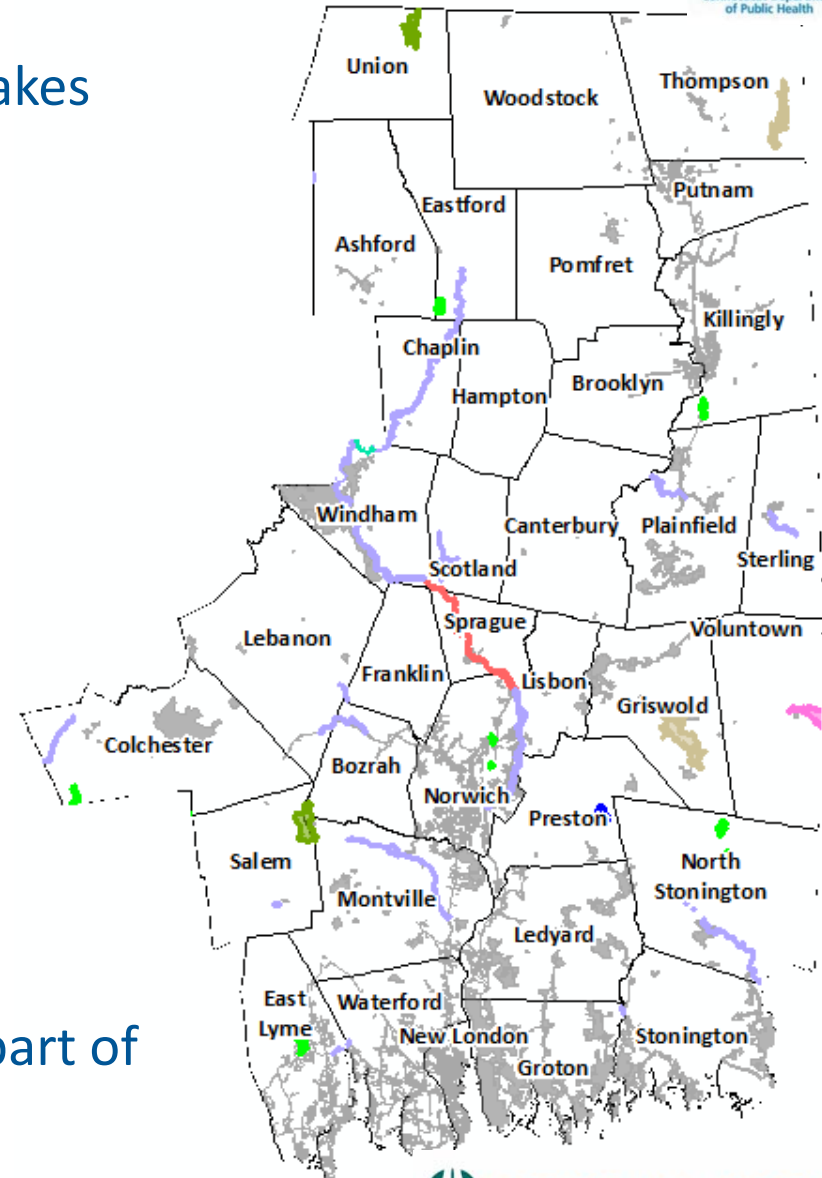
- Boating launches and state parks are widespread
- Most small streams do not support boating; most rivers do for at least part of the year
- Withdrawals may result in lower stream stages – shortening period of available use



Module #14 – Recreation

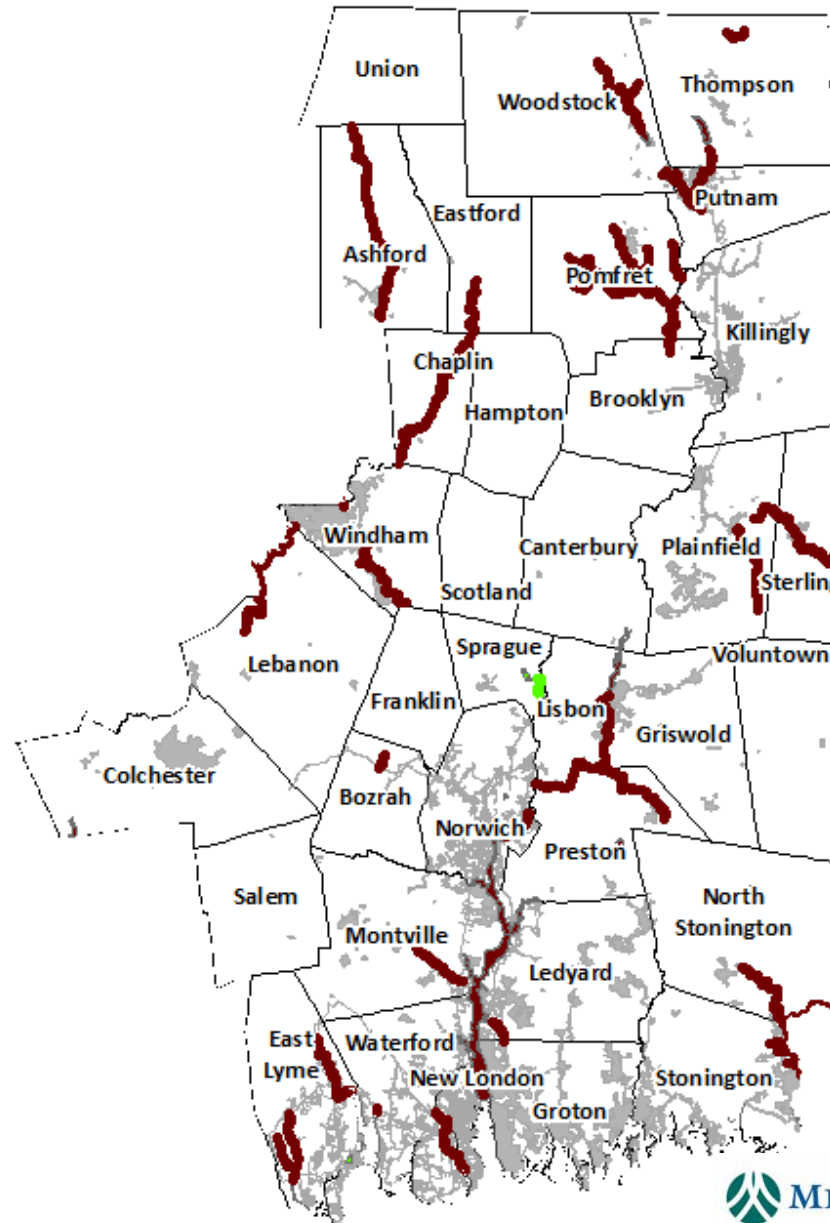


- DEEP manages rivers, streams and lakes for fisheries throughout the region
 - Atlantic Salmon
 - Bass
 - Kokanee Salmon
 - Northern Pike
 - Trout
 - Walleye
- Natchaug River and Shetucket River managed for multiple species
- Impacts to recreation evaluated as part of DEEP diversion permit process



Module #14 – Recreation

- Impaired Waterbodies 2014
 - Impaired River 2014
 - Recreation, Fish Consumption
 - Not Supporting Fish Consumption
 - Not Supporting Recreation
 - Not Supporting Both
 - Impaired Lake 2014
 - Recreation, Fish Consumption
 - Not Supporting Fish Consumption
 - Not Supporting Recreation
 - Not Supporting Both
 - Impaired Estuary 2014
 - Recreation, Fish Consumption
 - Not Supporting Fish Consumption
 - Not Supporting Recreation
 - Not Supporting Both



Module #14 – Hydropower



- Active (Permitted):
 - Aspinook Hydro (Quinebaug River) – 2780 kW capacity
 - Energy Stream (Quinebaug River) – 520 kW capacity
 - Quinebaug Partnership (Quinebaug River) – 2181 kW capacity
 - Glenn Falls Hydro (Moosup River) – 250 kW capacity
 - Summit Hydropower (Five Mile River) – 100 kW capacity
 - City of Norwich (Shetucket River) – 2200 kW capacity
 - City of Norwich (Shetucket River) – 800 kW capacity
 - FirstLight Hydro (Shetucket River) – 3026 kW capacity

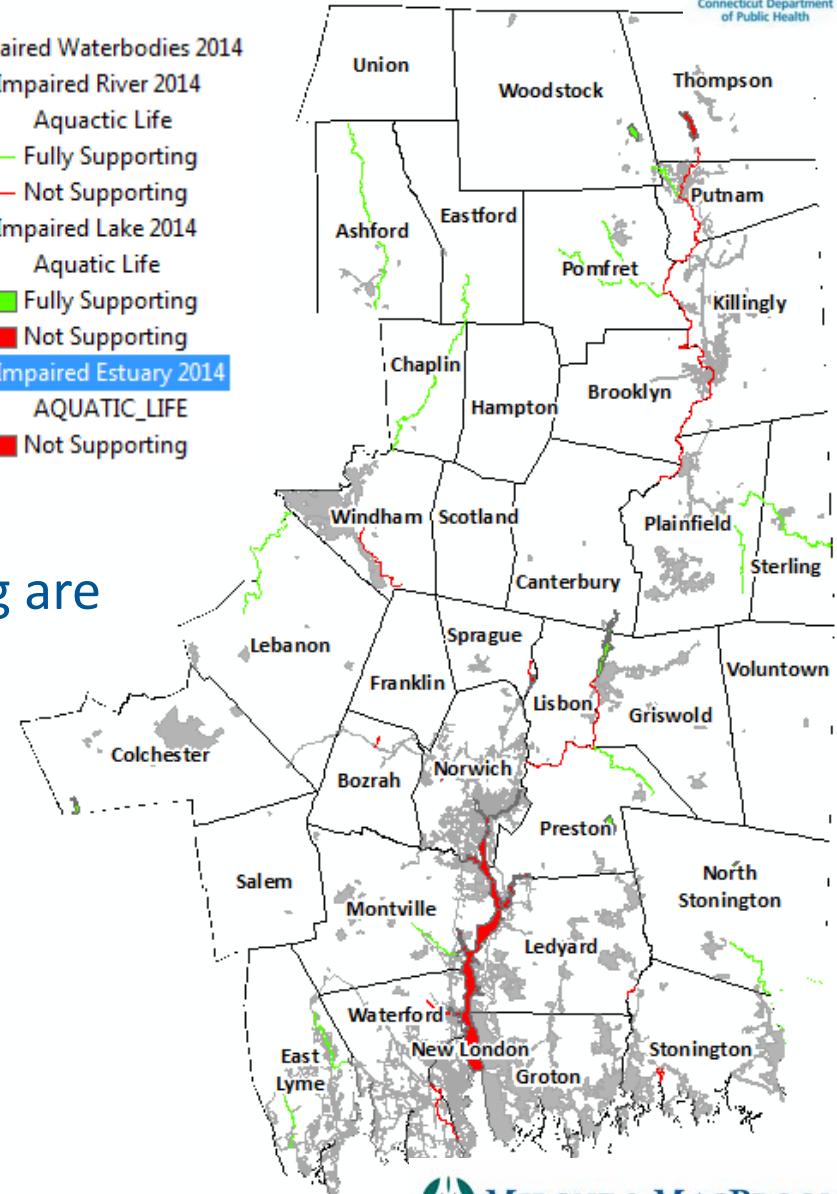
- Active (Exempted):
 - Putnam Hydropower (Quinebaug River) – 3294 kW capacity
 - Saywatt Hydroelectric (French River) – 325 kW capacity
 - Mansfield Hollow Hydro (Natchaug River) – 500 kW capacity
 - Putnam Green Power (Quinebaug River) – 875 kW capacity

Module #14 – Aquatic Habitat



- Portions of Quinebaug, Shetucket, Thames Rivers considered not supporting for Aquatic Habitat
- Few Instream Flow Studies performed (Natchaug and Quinebaug are notable exceptions)
- Impacts to aquatic habitat evaluated during diversion permit process

- ☐ Impaired Waterbodies 2014
- ☐ Impaired River 2014
 - Aquatic Life
 - Fully Supporting
 - Not Supporting
- ☐ Impaired Lake 2014
 - Aquatic Life
 - Fully Supporting
 - Not Supporting
- ☐ Impaired Estuary 2014
 - AQUATIC_LIFE
 - Not Supporting



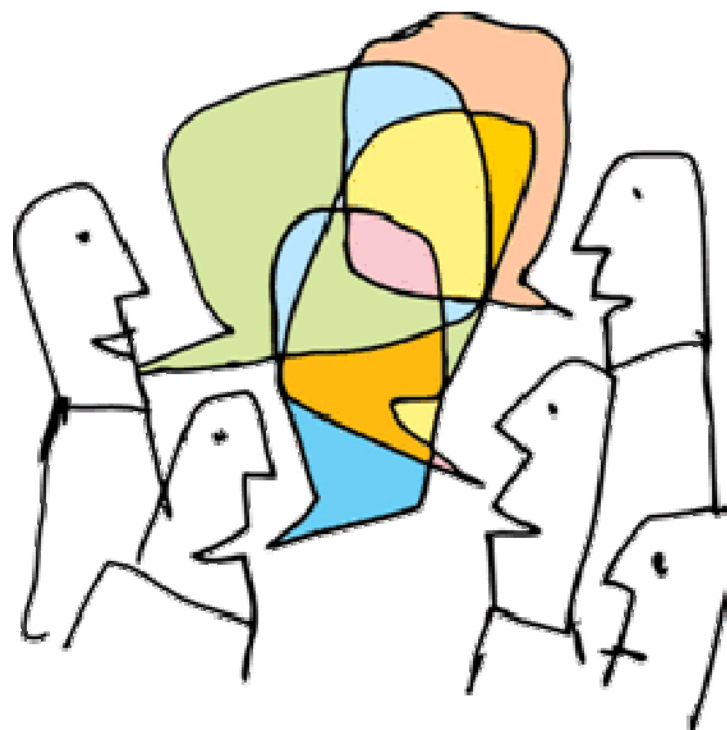
Module #14 – Potential Impacts



Responses from Utilities:

- GU plans to install emergency interconnections with 5 SCWA systems and NPU in Ledyard and Preston (general diversion permits)
- Emergency interconnections will not draw water regularly, and therefore the impacts will be minimal or absent (but also do not count towards available supply)
- Aquarion makes voluntary flow releases in excess of regulatory requirements in some locations, and works closely with the Nature Conservancy and others on fish passage and flow release plans

Module #14 Discussion



Module #15 – Regional Demands

- Only 5 utilities have submitted data!
- Necessary for good analysis
- Please provide ASAP (or we're stuck using your old projections)!



Module #15 – Regional Demands



New CT State Data Center Population Projections

- “Windham, East Windsor, Avon, Oxford, Ellington, Sterling, Norwich, West Haven, Rocky Hill, and Manchester are expected to experience the largest percentage of increase in overall population projected from 2015 to 2040.”
- “The towns of Sherman, New Fairfield, Bridgewater, Sharon, Monroe, Cornwall, Salisbury, Old Saybrook, Washington, and Weston are projected to experience the largest percentage of decline in the overall population from 2015 to 2040.”
- Overall, the East Region is projected to increase in population by approximately 15,000 people through 2040

Module #15 – Regional Demands



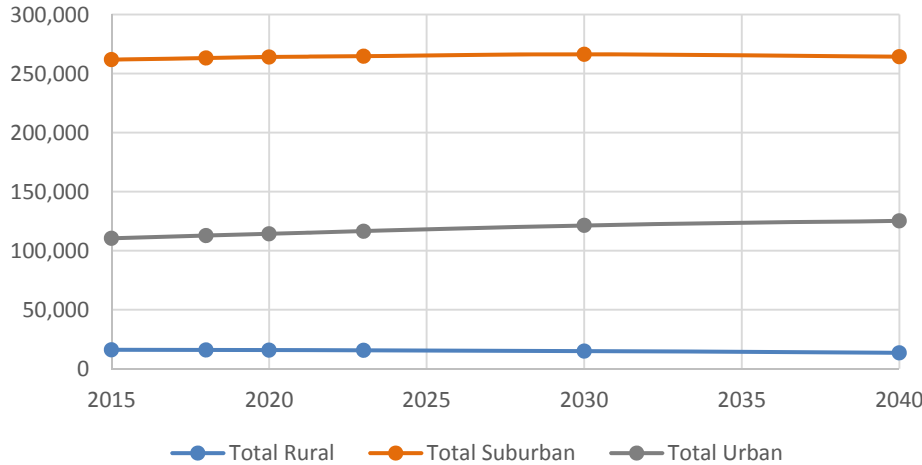
New CT State Data Center Population Projections

- Municipalities increasing population by 10%+ through 2023:
 - Sterling, Windham
- Municipalities increasing population through 2030:
 - By 10%+: Bozrah, Brooklyn, New London, Norwich, Sterling
 - By 20%+: Windham
- Municipalities increasing population through 2040:
 - By 10%+: Bozrah, Brooklyn, Griswold, New London, Pomfret, Putnam, Sterling
 - By 20%+: Norwich, Sterling
 - **By 47%: Windham!**
 - 24 of 35 communities declining through 2040

Module #15 – Regional Demands



New SDC Population Projections to 2040

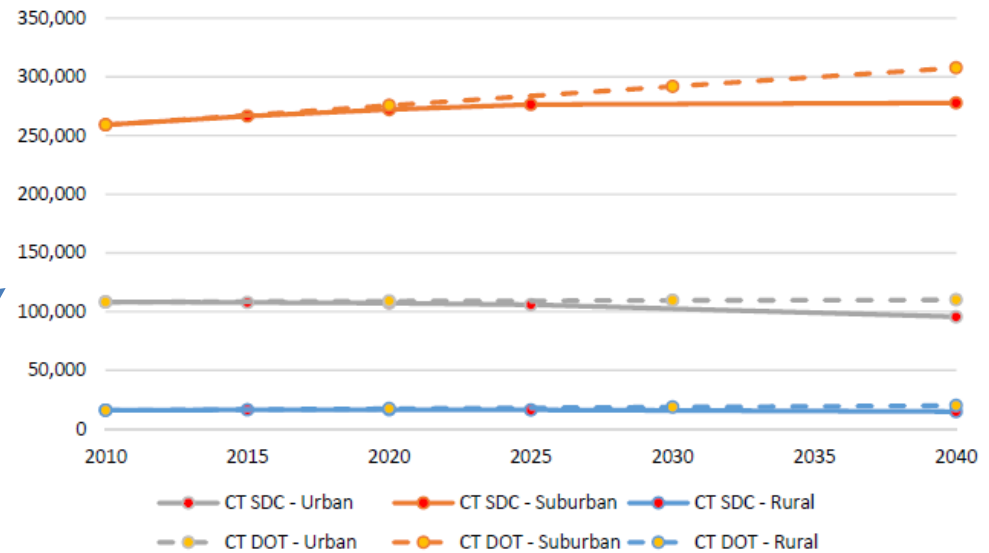


Suburban now decreasing slightly between 2030 and 2040

Urban now increasing

Rural still decreasing

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



This graph from WSA

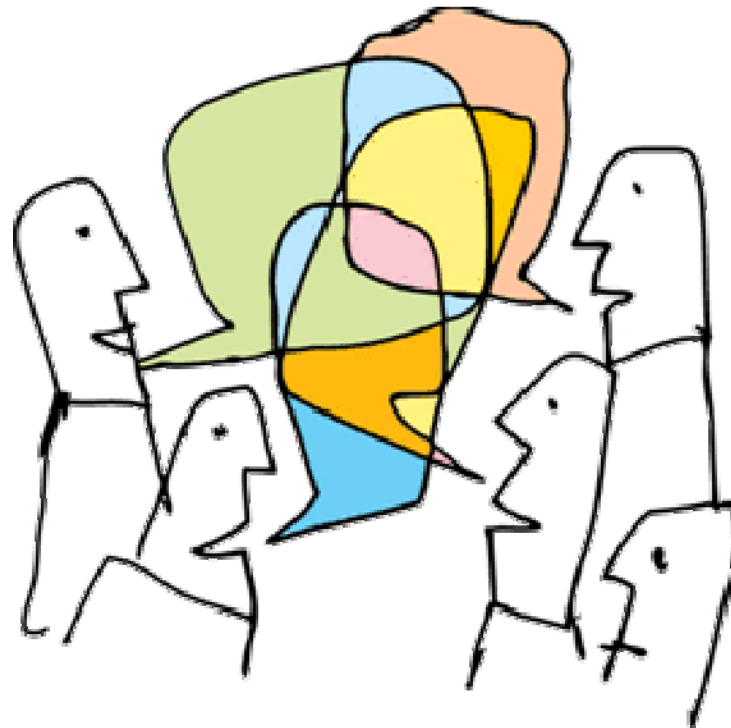
Module #15 – Regional Demands



Responses from Utilities:

- GU plans to rebuild its WTP and upgrade storage in the 5-year planning period, resulting in improved water quality, storage, and pressure for regional customers
- GU uses approximately 50% of safe yield of 12.6 mgd and is well-positioned for providing regional supply
- GU expects relatively flat population growth in its primary service area
- AWC expects increased demands from service population will be largely offset by reduced per-capita consumption through conservation

Module #15 Discussion



Module #16 – Compatibility with Plans



- Water Supply Assessment reviewed local Plans of Conservation and Development
- Municipal officials were surveyed regarding water supply needs as part of WSA
- Regional Plans include SCCOG Plan (Adopted October 2017) and NECCOG Plan (1990s era – update in development)
- 2010 Former WinCOG Plan available for several communities

CWSP regulations require “discussion of the relationship and compatibility of the CWSP with proposed or adopted land use plans and growth policies, as reflected in local, regional, and state plans”
RCSA 25-33h-1(d)(C)(ii)

Module #16 – Compatibility with Plans



■ Local POCDs (and municipal survey):

- Ashford: Public water needed for economic development
- Bozrah: Desire to expand service along certain roads
- Chaplin: Desire PWS in Natchaug Village, Sherman's Corner
- Colchester: Public water needed for economic development
- Franklin: Expansion along Route 32 in progress, additional expansion desired
- Ledyard: Expansion planned
- Montville: System will expand as developments materialize

- New London: 100% served
- North Stonington: Town controls ESA, expansion limited
- Putnam: Will expand within ESA (Town boundary)
- Sprague: Unlikely to expand
- Sterling: Areas of need already served
- Thompson: Desire service to industrial park
- Windham: Will consider expansion to meet needs within ESA
- Remainder of POCDs are neutral on public water supply

Module #16 – Compatibility with Plans



- SCCOG Regional Plan (Adopted October 2017)
 - Notes that 75% of population and one-third of land area served by public water supplies
 - Discusses role of SCCOG in regional water supply planning through Regional Water Committee and Eastern WUCC
 - Estimates 20-year changes in service population based on previous CT SDC population changes in WSA
 - Encourages regional sharing of supplies through interconnections and regionally-interconnected system (consistent)
 - Related implementation strategies include:
 - ✓ Support the development of regional and state water plans to ensure continued availability of adequate water; and
 - ✓ Protect wastewater treatment, energy generation, and other sites from flooding risks (consistent)
 - Treats water supply as regional issue, sewer local

Module #16 – Compatibility with Plans



- Windham Regional Plan (2010)
 - Still technically applies to Chaplin, Hampton, and Scotland
 - Goal states that development, especially concentrated development, should be concentrated in areas where there is public water and sewer...and other community infrastructure
 - Goal states that development should not degrade water quality, including public water supply recharge areas
 - Encourages public water supplies to be constrained to regional centers (Storrs, Willimantic)
- Standard utility plan (provide water where it is needed, when requested, who will pay?) is consistent with Former WinCOG plan; Chaplin has expressed a desire for service to certain areas (Route 6)

Module #16 – Compatibility with Plans



- Conservation & Development Policies: The Plan for Connecticut (2013-2018) – Consistent with 5 of 6 GMPs
 - GMP #1: Redevelop and Revitalize Regional Centers and Areas with Existing or Currently Planned Physical Infrastructure
 - GMP #2: Expand Housing Opportunities and Design Choices to Accommodate a Variety of Household Types and Needs
 - GMP #4: Conserve and Restore the Natural Environment, Cultural and Historic Resources, and Traditional Rural Lands
 - GMP #5: Protect and Ensure the Integrity of Environmental Assets Critical to Public health and Safety
 - GMP #6: Promote Integrated Planning across all Levels of Government to Address Issues on a Statewide, Regional, and Local Basis

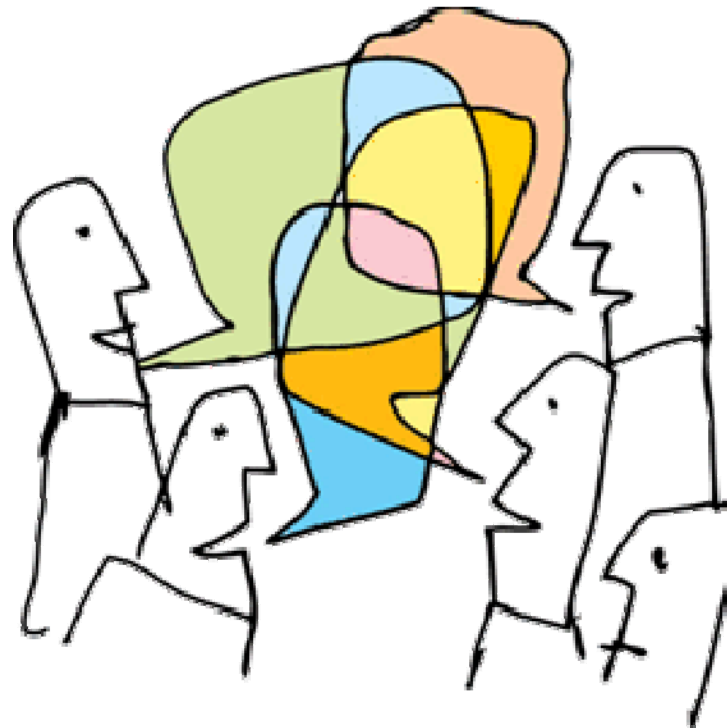
Module #16 – Compatibility with Plans



Responses from Utilities:

- AWC and GU are consistent with local, regional, and state planning goals, and participates with local and regional planning agencies
- GU notes that future service plans are reviewed by required agencies, and regional considerations are discussed with regulators and regional planning committees
- AWC has regular contact with service communities regarding future service plans, and future sources are expected to be compatible with local, regional, and state planning goals

Module #16 Discussion



Upcoming Meetings



- ✓ Take a more detailed look at projections
- ✓ Review Draft Integrated Report
- ✓ Continued Discussion of How to Resolve Issues
- ✓ Prioritization of Strategies and Actions

7. Other Business

Potential Agenda for December 13, 2017



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