



Monthly Meeting #20

Coordinated Water System Plan Central Region

MDC Training Center; 125 Maxim Road, Hartford, Connecticut | January 17, 2018

Agenda

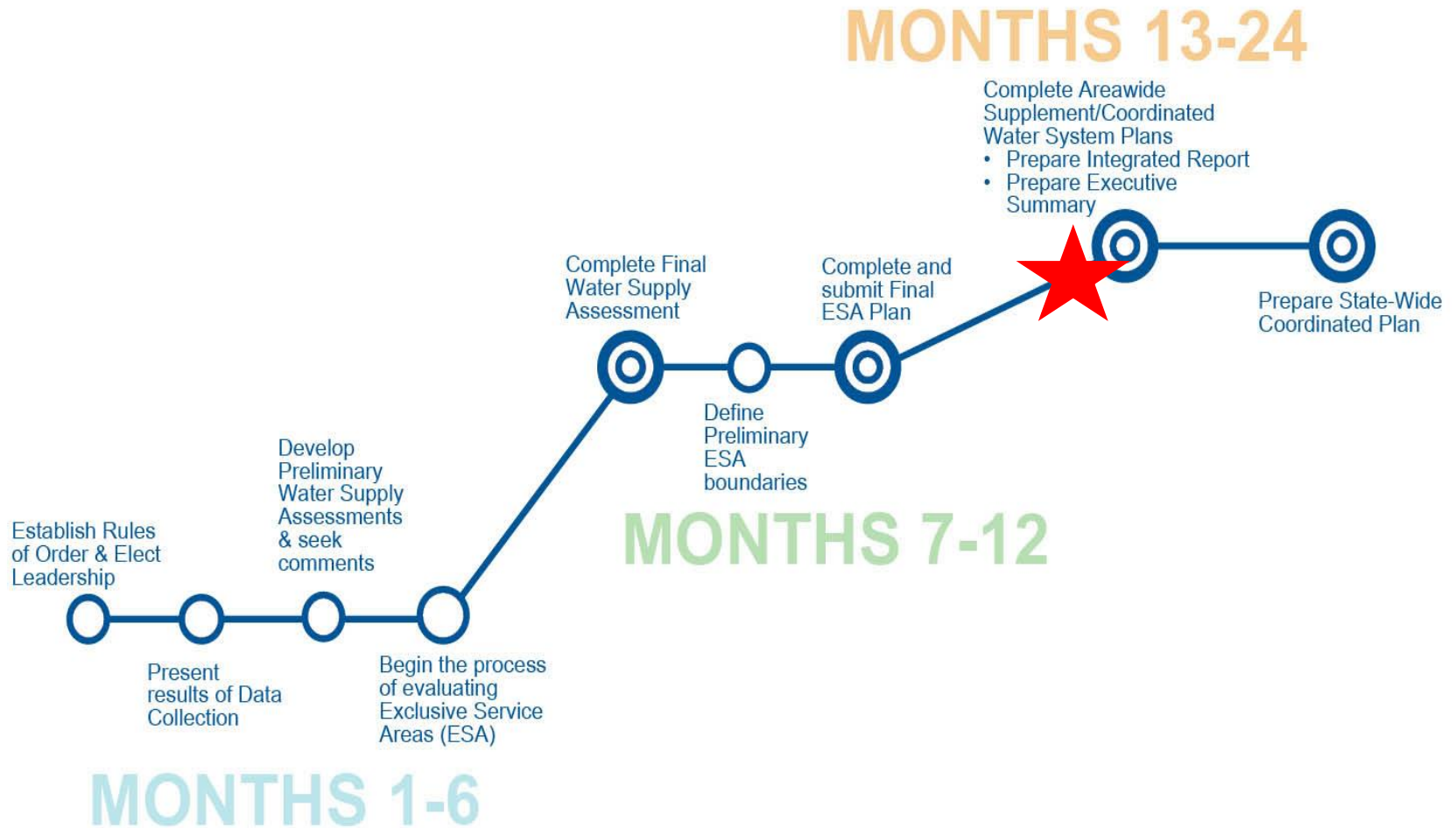


1. Welcome & Roll Call (5 minutes)
2. Approval of December Meeting Minutes (5 minutes)
3. Review of Formal Correspondence (5 minutes)
4. Review and Discuss Integrated Report Sections (90 minutes)
5. Next Steps and Revised Timeline (5 minutes)
6. Public Comment (10 minutes)
7. Other Business (5 minutes)

1. Welcome and Roll Call

- ***What Have We Accomplished?***
 - ✓ Discussed Integrated Report Modules #1 through #16
- ***What Are We Doing Today?***
 - ✓ Review status and content of Integrated Report Sections 1-4
- ***What's Next?***
 - ✓ Continue to review sections and approve for public comment

WUCC Time Frame



2. Approval of Meeting Minutes

3. Formal Correspondence

Formal Correspondence



Date	From	To	Main Topic(s)
12/20/17	DPH	City of Middletown	Forest City Farms, LLC TNC System – Phase 1A Well Site Suitability Certification

4. Integrated Report Review

Integrated Report Layout



1. Introduction
2. Context and Coordination of Planning – *Coordination of Planning (service areas, drought, etc.), Water Conservation, New Regulations, Climate Change and Resiliency*
3. Population, Consumption, and Available Water Projections
4. Satellite Management and Small System Challenges

Coming Next

5. Existing and Potential Interconnections
6. Management and Ownership of Services, Equipment, and Facilities
7. Minimum Design Standards
8. Analysis and Prioritization of Future Water Supplies
9. Potential Impact on Other Uses of Water Resources
10. Relationship and Compatibility with Other Planning Documents
11. Summary of Estimated Costs for Implementation

Introduction

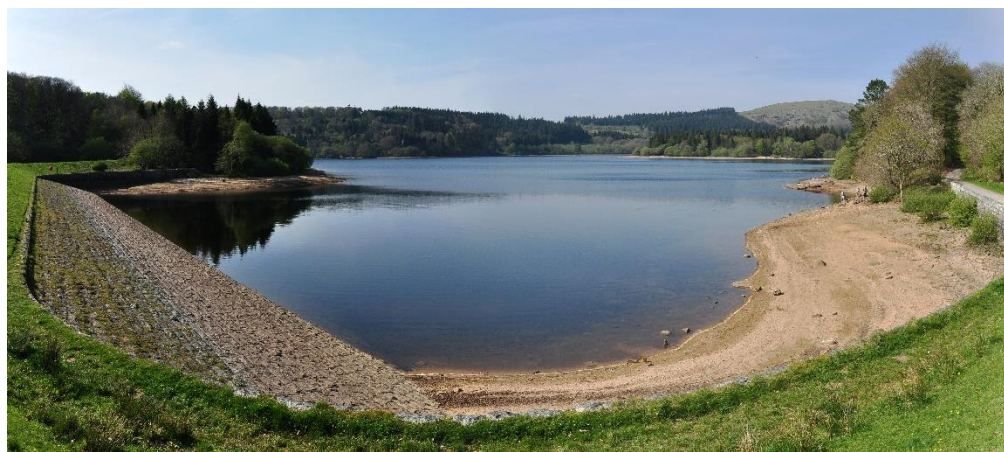
- Recall that planning periods are 2023, 2030, and 2060.
- Regulations require:
 - ✓ Population and consumption projections for the PWSMA as a whole and for each municipality
 - ✓ Population and demand by user category for each PWS ESA and for the combined service areas
 - ✓ Sources of supply, safe yield, and purchased water for each PWS ESA and combined service areas
 - ✓ Determination of projected population within each municipality to be serviced by public water supplies
 - ✓ Identification of areas not within ESA boundaries and discussion of water supply alternatives
 - ✓ Discussion of land use plans and growth policies

Introduction

- Regulations require (cont.):
 - ✓ Evaluation and identification of alternative water sources, including safe yield estimates and delivery mechanisms
 - ✓ Plans for interconnections
 - ✓ Plan for joint use, management or ownership of services, equipment, or facilities
 - ✓ Plan for satellite management
 - ✓ Provisions for minimum design standards
 - ✓ Presentation of financial data
 - ✓ Consideration of potential impacts of the plan on water quality, flood management, recreation, hydropower, and aquatic habitat
- The Integrated Report will also address the issues, needs, and deficiencies identified in the WSA

Context & Coordination of Planning

- Disjointed Service Areas
- Planning and Coordination Among Public Water Systems
- Planning Between Municipalities and Public Water Systems
- Drought Planning and Response



Drought Planning and Response

- Drought Planning and Response
 - ✓ Drought plans for large utilities expected to be updated over the next 10 years following adoption of updated State Drought Plan
 - ✓ 11 utilities in the Central region are still using older drought response plans (five-stage method)
 - ✓ Use of days of supply remaining is a potential solution for streamlining triggers, rather than percentage of storage
 - ✓ There are limited methods to enforce voluntary and mandatory conservation measures
 - ✓ Current IR draft suggests that WUCC will defer to agencies/organizations currently working on drought planning for further coordination on this issue - - Is there consensus?

Water Conservation

- Many of the large systems in the Central Region have reduced unaccounted for water to less than 15%, some with levels below 10%
- State Water Plan recommendations include education, analysis of incentives and case studies, billing frequency, and partnerships
- Potential WUCC recommendations include:
 - ✓ Develop specific water conservation tools for public water systems
 - ✓ More effective methods of addressing systems that exceed 15% unaccounted-for non-revenue water
 - ✓ Outdoor water usage restrictions modeled after those used in southwestern Connecticut in 2016
 - ✓ Innovative billing structures
 - ✓ Seasonal surcharges

Impacts of Policies and Regulations

- Safe Yield Calculations
 - ✓ Using safe yield for MMADD available water accounts for much of the potential water need in the region, but this may not be real need
 - ✓ Potential to utilize the maximum month seasonality from safe yield model to assign MMADD available water
- Streamflow regulations will drive the need for new supplies and/or reactivation of currently inactive supplies
- Groundwater quality in some areas may drive the need for new public water systems in place of private wells
- Utilities will need to prepare to address the costs of testing and potential treatment for emerging contaminants in their own systems

Climate Change & Resiliency

- Climate change may affect some of the underlying assumptions in safe yield modelling (e.g. rainfall, evaporation rate)
- Lower groundwater levels may affect safe yield of groundwater sources
- Resiliency can be implemented in various water system components (e.g. supply sources, infrastructure hardening, backup power, interconnections)
- Public Health Code requirements differ from state critical facility requirements regarding design flood elevation; WUCCs should work with DPH to resolve this discrepancy
- More recommendations to come in the Drinking Water System Vulnerability Assessment and Resiliency Plan (CIRCA/UConn)

Average Day Demand Projections

- Four small community water systems are projected to have an available water deficit for average day demand (ADD) in the 5, 20, and 50-year planning periods:
 - ✓ Aquarion Water Company Birchwood Estate – Service Area Population = 251 (high unaccounted for water and insufficient well yield)
 - ✓ Cedar Ridge Apartments – Service Area Population = 300 (insufficient well yield)
 - ✓ CWC Chimney Hill – Service Area Population = 227 (available water not guaranteed by interconnection contract)
 - ✓ Woodhaven Apartments – Service Area Population = 489 (insufficient well yield)
- East Hampton WPCA is projected to have a deficit for the 20, and 50-year planning periods
- Tolland Water Department is projected to have a deficit in the 50-year planning period

MMADD Projections

- Performed for large community water systems
- Average MMADD/ADD peaking factor in the region is approximately 1.40
- Same peaking factor applied for water conservation projections
- The maximum month average day available water calculation results in a projected deficit of:
 - ✓ 1 system under current demands
 - ✓ 1 system in the 5-year planning period
 - ✓ 3 systems in the 20-year planning period; and
 - ✓ 5 systems in the 50-year planning period

MMADD Projections

- MMADD deficits are computed for the following systems (deficits reported for the 50-year planning period):
 - ✓ CTWC Shoreline Region-Soundview System (0.011 mgd deficit)
 - ✓ CTWC Unionville System (0.763 mgd deficit)
 - ✓ SCCRWA (12.726 mgd deficit)
 - ✓ Southington Water Department (1.404 mgd deficit)
 - ✓ Tolland Water Department (0.118 mgd deficit)
- Water conservation could significantly mitigate the low projected margins of safety, although it would not eliminate the computed deficits

Streamflow Regulations Impact

- Used utility-provided information to reduce safe yield or assumed 15%
- Other assumptions:
 - ✓ For exempt reservoirs, a 0% reduction in safe yield was assumed
 - ✓ For reservoirs with RGQ80 flows between 0.10 and 0.15 cfs, a zero reduction was assumed (most will be exempt)
 - ✓ For reservoirs with RGQ80 flows between 0.16 and 0.20 cfs, a 10% reduction was assumed (many could be exempt)
 - ✓ Reservoir systems assumed to decrease based on the highest decrease of any reservoir in the system (feeder or terminal)
 - ✓ Reductions applied to 20-year planning horizon (2030) onward, consistent with implementation timetable

Streamflow Regulations Impact

- Two systems are expected to have available water deficits exacerbated by releases.
- Twelve systems appear to have sufficient supply to meet ADD, MMADD, and required releases for all planning horizons.
- The most significant projected reductions are as follows:
 - ✓ SCCRWA – 9.78 mgd reduction
 - ✓ Wallingford Water Department – 1.91 mgd reduction
 - ✓ New Britain Water Department – 1.63 mgd reduction
 - ✓ Meriden Water Department – 0.87 mgd reduction
 - ✓ Manchester Water Department – 0.69 mgd reduction

Small System Viability

- Encourage DPH to continue updating the Capacity Assessment Tool
- Place small CWSs into bins to provide choices rather than only one option:
 - ✓ Interconnect or consolidate with other CWS
 - ✓ Become a satellite or remain independent and make improvements
 - ✓ Interconnect or become satellite
 - ✓ Consolidation or become satellite
- Further outreach to small systems run by voluntary associations, particularly to increase capacity to apply for grants and loans such as DWSRF
- Increase resiliency
- Better coordination with local emergency management directors and communities regarding emergency contact information and inclusion on critical facility lists

5. Next Steps and Revised Timeline

CWSP Schedule



Action	Timeline
• Issue draft Preliminary CWSP	By Early January 2018
• Discuss draft Preliminary CWSP	January 17, 2018 meeting
• Issue final draft Preliminary CWSP	January 31, 2018
• Approve Preliminary CWSP for Public Comment	February 21, 2018 meeting
• Min. 30-Day Public Comment period	February to March 2018
• Final prioritization of recommendations, discuss public comments	March 21, 2018 meeting
• Issue draft Final CWSP	March 31, 2018
• Review draft Final CWSP	April 18, 2018 meeting
• Issue final draft Final CWSP for review	April 30, 2018
• Approve Final CWSP for Submission to DPH	May 16, 2018 meeting

6. Public Comment

7. Other Business