Connecticut State Water Plan – Draft Report

“DEVELOPMENT OF CONNECTICUT’S FIRST STATE WATER PLAN”

GROUNDWATER PROTECTION COUNCIL ANNUAL FORUM, SEPTEMBER 29, 2017

LORI MATHIEU, SECTION CHIEF, DRINKING WATER SECTION

CONNECTICUT DEPT. OF PUBLIC HEALTH
State Water Plan Overview

• Purpose and Requirements

• Planning Process and Goals

• Data and Technical Analysis

• Policy Priorities and Pathways Forward

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Water Planning Council

• The Water Planning Council (WPC) embarked on the development of the draft plan in 2015, as the result of a law (Public Act 14-163), directing the WPC to develop a state water plan

• To be submitted to the Connecticut State Legislature by January 1, 2018

• The Plan is intended to help planners, regulators, and lawmakers make decisions about managing Connecticut’s water in a manner that is consistent throughout the state
Water Planning Council Agencies

Lori Mathieu
Department of Public Health

Garrett Eucalitto
Office of Policy and Management

Betsey Wingfield
Department of Energy and Environmental Protection

Jack Betkoski
Public Utilities Regulatory Authority

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CT State Water Plan “Final Draft” is available for comment!

- Brought to you by: The Water Planning Council
  - Steering Committee, Policy and Science & Technical Subcommittees, and Water Planning Council Advisory Group
- Numerous Stakeholders, including:
  - Public Water Suppliers
  - Environmental Groups
  - Industry Water Users
  - Watershed Groups
  - Agricultural Interests
  - Public Health Officials
  - Academics
  - Interested citizens
- Consulting provided through NEIWPC by CDM Smith and Milone & MacBroom, Inc.

We Want YOUR Feedback!

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Why Do We Need a State Water Plan?

- Water is our most important natural resource
- Preserving and protecting the state’s public drinking water supply
- Increasing frequency of drought
- Climate change impacts
- Environmental impairments caused by registered diversions
- Increasing peak day demands for lawn irrigation

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Requirements of the State Water Plan

Science
• Quantities / Qualities of Water
• Present / Projected Demands
• Appropriate Regions
• Data-Driven Decisions

Considerations
• Public Health & Safety
• Ecological & Environmental Needs
• Economic Impacts
• Balance

Engagement
• Inform State Residents
• Communication & Implementation of Plan
• Incorporate Regional & Local Plans
• Businesses, Towns, Local Health Departments and Regional Governments

Policy
• Climate Resiliency
• Infrastructure
• Land Use Measures
• Recommendations on Laws / Regulations
• Conservation / Water Reuse
• Inter-Regional Solutions & Sharing

Public Act 14-163
Key Highlights of the State Water Plan

- Platform for consistent, informed decision making
- Maintain highest quality drinking water
- Balance in-stream and out-of-stream needs
- Water conservation
- Maintain scientific data

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Stakeholder Workshops and Public Meetings

**Phase I**

*Workshop: #1 Plan Framework*
- 3 Public Meetings:
  - Eastern, Central & Western, CT

**Phase II**

*Workshops:*
- #2 Options
- #3 Policies Vs. Pathways
- #4 Pathways Forward
- #5 Policy Recommendations
- #6 Plan Recommendations
- 3 Public Meetings

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What We Have Learned:

• CT has ample high quality water for our needs
• The water is not always where we need it when we need it
• We need wise and efficient use of our water
• Climate change will add stress to our natural systems and management systems
• Now is the time to plan!

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What Does the Plan Mean by “Balance”?

**“Triple Bottom Line”:**
- Human Health
- Environmental Health
- Economic Cost & Benefits

The right quantity and quality for each need.

[Website Link: www.ct.gov/water]
Overall Goals of the Plan

- Balance
- Public Health
- Environment
- Science
- Climate Change
- Public Engagement
- Implementation
What’s in the Draft Plan?

- Background
  - Current Policies
  - Future Options
- Technical Information
  - Water Needs
  - Climate Change
  - Water Conservation
- Recommendations
  - Policies
  - Pathways Forward
  - Implementation

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Background White Papers

• Current Water Management Structure
• Land Conservation and Economic Development
• Future Water Management Options
• Future Water Management Challenges

• All are available at: www.ct.gov/water
Scale of Planning – Regional Watersheds

What is a Watershed?
aka: Basin

“An area of land that drains all the streams and rainfall to a common outlet.”

- Local
- Subregional
- Regional
- Major

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8 Major Connecticut Basins
Technical Information – Stress Maps
Technical Information - Basin Summaries

**Basin Water Summary**

<table>
<thead>
<tr>
<th>Regional Basin</th>
<th>Regional Basin No.</th>
<th>Major Basin</th>
<th>Size of Basin in CT (mi²)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quinnipiac</strong></td>
<td>52</td>
<td>South Central Coast</td>
<td>166</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source of Water</th>
<th>IN/YR</th>
<th>MGD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precipitation</td>
<td>48.7</td>
<td>345</td>
</tr>
<tr>
<td>Wastewater Discharge</td>
<td>3.2</td>
<td>25.1</td>
</tr>
<tr>
<td>Estimated Domestic Recharge</td>
<td>0.5</td>
<td>3.9</td>
</tr>
<tr>
<td>Evapotranspiration</td>
<td>22.8</td>
<td>179</td>
</tr>
<tr>
<td>Groundwater Withdrawals</td>
<td>2.1</td>
<td>16.3</td>
</tr>
<tr>
<td>Surface Water Withdrawals</td>
<td>1.2</td>
<td>9.3</td>
</tr>
<tr>
<td>Stormflow</td>
<td>12.4</td>
<td>98</td>
</tr>
<tr>
<td>Estimated Potential Recharge (EPR)</td>
<td>12.2</td>
<td>96</td>
</tr>
<tr>
<td>Total Streamflow (Stormflow + EPR)</td>
<td>24.6</td>
<td>194</td>
</tr>
</tbody>
</table>

Catalog of Internal and External Flows in Basin

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Technical Information – Basin Summaries

Quinnipiac Basin (continued)

Water Availability and Demand (MGD): Including Estimated Ecological Flows, Regulatory Reservoir Releases, and Unused Registrations (Reg) and Permits (Perm)

Average Conditions (MGD)

<table>
<thead>
<tr>
<th>Water in Basin</th>
<th>Current Total Demand</th>
<th>Future (2040) Total Demand</th>
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July Conditions (MGD)

<table>
<thead>
<tr>
<th>Water in Basin</th>
<th>Water in Basin - Entuma 2002</th>
<th>Current Total Demand</th>
<th>Future (2040) Total Demand</th>
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<tr>
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Technical Information – Climate Change

Evaluated a range of future climate trends, including:

- Monthly precipitation
- Monthly temperature
- Monthly stream flow

Under multiple climate scenarios

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Future Modeling Opportunities

• Examine local issues
• Study impacts of policy decisions
• Assist with basin planning

CDM Smith - “Simplified Water Allocation Model” (S.W.A.M.)

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Top Consensus-Based Policy Priorities

- Scientific Basis
- Obsolete Registered Diversions
- Innovative Agricultural Practices
- Centralized Data Portal
- Non-Potable Uses of Class B Waters

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Top Consensus-Based Policy Priorities, cont’d

• Water Conservation

• Coordination with Other Plans
  (Such as WUCC’s, C&D...)

• Encourage Regional Solutions

• Land Use Protection

• Public Education & Outreach Program

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Pathways Forward

- Water Conservation
- Regionalization/ Interconnections
- Registered Water Diversions
- Aging Infrastructure

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Pathways Forward, cont’d

• Economic Impacts

• Funding for Implementation

• Future Class B Water for Non-Potable Uses

• Statewide Drought Planning

• Wastewater and Water Reuse
Pathways Forward, cont’d

• Water Use Accounting
• In-Stream Flow
• Technology Utilization
• Private Well Testing & Inventory

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• Plan submitted to the Connecticut State Legislature - by January 1, 2018

• Joint standing committees* may conduct a joint public hearing on the Plan

• Committees may submit the Plan to the General Assembly for approval or return to WPC for revisions and resubmittal to the General Assembly

• Plan becomes effective when adopted by an affirmative vote of the General Assembly

• If the Plan is not adopted by an affirmative vote of the General Assembly on or before twenty-four months after the date of its original submittal, then it is forwarded to the Governor for adoption or rejection

*Committees on Environment, Public Health, Planning & Development and Energy & Technology
What is your #1 concern for water in Connecticut?

Comment Period is open until Monday, November 20, 2017
We Want Your Feedback!— Here’s How:

• Go to: [www.ct.gov/water](http://www.ct.gov/water)
  • Download the Final Draft CT State Water Plan
  • Click on link to submit comments online
  • Check for public meeting updates
  • Questions? Send an email to [wpc@ct.gov](mailto:wpc@ct.gov)

Comment Period is open until Monday, November 20, 2017

THANK YOU!