



# Maine's Aging Infrastructure Conference

## Meeting the Critical Challenge of Our Aging Water and Sewer Systems

Ramada Inn, Lewiston  
Thursday, October 11, 2007

A photograph of a wastewater treatment plant. In the foreground, there is a large, circular clarifier with a metal walkway and railings. The water in the clarifier is a light brown color. In the background, there is a long, white building with several windows. The building is surrounded by trees and a parking lot. The sky is overcast.

# Regional Perspective of Our Aging Infrastructure

Albert Curran, P.E.

# **Albert Curran, PE**

## **COB Woodard & Curran**

- **CEO W&C 30 Years**
- **Water & Wastewater planning, design & operations, Maine, NE, US**
- **WEF & AWWA**
- **Maine Commissioner to NEIWPC**

# New England Interstate Water Pollution Control Commission

- 60 Years NY & NE State DEP/DEC
- State W & WW Div Directors
- EPA 1&2 Water Div Directors
- Coordinate Laws, Regulations & Policies
- Promote Federal funding
- WW Operator training

# Thirty Five Year History of Water Utilities Development (1972 – 2007)

- EPA driven W & WW Permits
- Funding by
  - Federal EPA Grant & SRF, USDA, EDA, ACOE, Ear Marks
  - State DEP Grants & SRF, DECD, CZM
  - Local Bonds and User Fees

# The Sustainable Infrastructure Challenges

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- Financing to Replace Major TP Units
  - Completing CSO
  - Advanced Water & WW Treatment
  - Operator Succession
  - Energy Costs
  - Security Costs
  - Global Warming
  - Water Conservation
  - Escalating User Fees

A photograph of a wastewater treatment plant. In the foreground, a long, narrow walkway with a metal grating floor and yellow safety railings leads towards a series of large, rectangular aeration tanks. The tanks are filled with water and have yellow railings around their edges. In the background, there are white buildings, possibly control rooms or administrative offices, and a line of trees under a clear sky. The overall scene is bright and well-lit.

**Regionalization & Collaboration  
is a Key Strategy  
for  
Sustaining W & WW Infrastructure**

# Cost Saving Opportunities from Regionalization & Collaboration

- Operations
  - Shared Staffing for:
    - Maintenance
    - Sampling & laboratory analysis
    - Emergency response
    - Training & Prof. Dev.
    - Chief Operators
    - Management
  - Shared water resources
  - Collaborative Purchasing
  - Regional solids management and disposal
  - Shared emergency response services

# Cost Saving Opportunities from Regionalization Collaboration

- **Planning** (Watershed studies, Effluent trading (AWT-TDML))
- **Water treatment & Storage**
- **Funding EPA, Ear Marks, ADOE, DOT**
- **Contract Operations** (Optimization & Collaboration)

# Sustainable Infrastructure Initiatives

- EPA Four Pillars Strategy
- EPA Sustainability Strategies
- EPA Regionalization Initiatives
  - WW regulatory variance initiatives
  - SD Water Act incentive (section 1414H)
  - SRF priority points
  - Regional water shed initiatives
    - Assabet River, MA – AWT Study
    - Merrimac River, MA – CSO Study
    - Connecticut River (NH, VT, MA, CT) – AWT & CSO

# Sustainable Infrastructure Initiatives

- National Advisory Council on Environmental Policy and Technology (NACEPT)
  - Promoting collaborative government approaches
- State Initiatives
  - Maine 100k/system for consolidation
  - NH regional grants
  - CT Non-Viable drinking water system consolidation
  - SRF Priority points
- Regional Initiatives (typical)
  - Bangor Regional Mutual Aid
  - NH Southern Coast Mutual Aid
  - Southern Maine Water Utility
  - New Haven, CT Purchasing Collaborative

# Regional Utility Collaboration Examples

- Bangor Area Water Utilities
- NH Seacoast Water Utilities
- Southern Maine Water Utilities
- Togus – Chelsea – Augusta
- Assabet River, MA Collaborative
- New Haven, CT Collaborative

# Bangor Mutual Aid

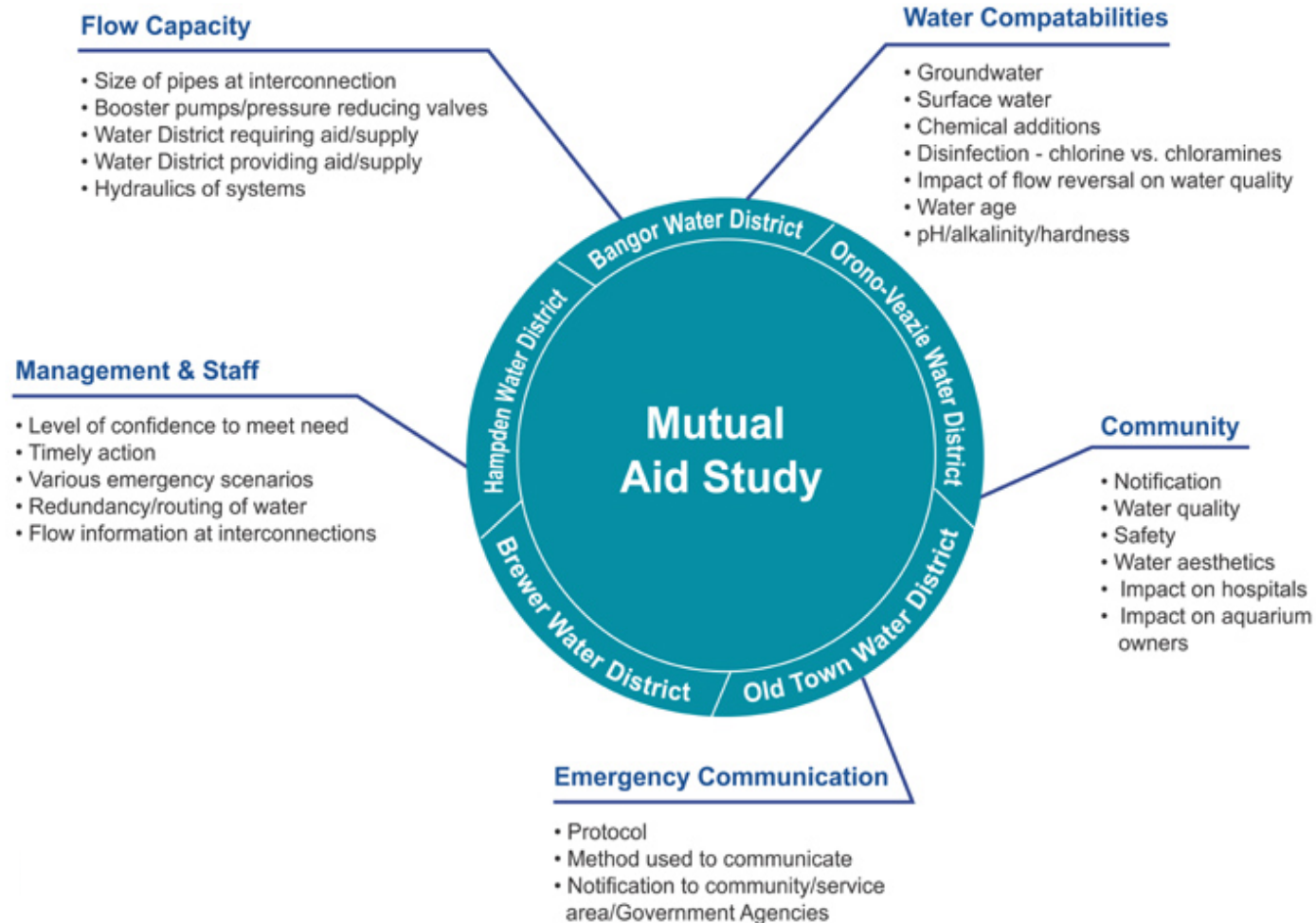
## Area Utilities Groups

- Bangor
- Brewer
- Hampden
- Old Town
- Orono – Veazie
- Newport
- Plymouth
- Winterport

# Bangor Mutual Aid

## Study Presented a Variety of Challenges

Figure 1 - Project Issues



# Bangor Mutual Aid Benefits Achieved by the Study

1. Documented current level of aid possible
2. Identified needed infrastructure
3. Prioritized where to best allocate resources
4. Established operational recommendations to minimize water quality impacts
5. Provided a road map for enhanced reliability of service by giving each utility options

# NH Seacoast Mutual Aid

- Aquarion (Hampton)
- Dover
- Durham/UNH
- Newmarket
- Portsmouth
- Rochester
- Rollinsford
- Rye
- Seabrook
- Somersworth

# NH Seacoast Mutual Aid Regional Model Components

- 572 Water Mains
- 26 Storage Tanks
- 18 Pressure Zones
- 47 Water Sources
- 65 Pumps
- 8 PRV's
- 15 Potential  
Interconnections

# NH Seacoast Mutual Aid Objectives

- Create source redundancy via interconnections
- Provide options during an emergency
- Increase the reliability of service
- Make possible the goal of uninterrupted service

# NH Seacoast Mutual Aid Summary

- 82% of the interconnections are likely to be successful from hydraulic perspective (rating of medium or better)
- 97% of the interconnections are likely to be successful from a water quality perspective

# Sustainable Water Infrastructure

## Spring 2007 EPA Conference

### Recommendations

1. Promote public outreach & communication on SI
2. Institutionalize SI concepts in SRF
3. Explore opportunities to promote regionalization approaches to SI
4. Find opportunities for energy efficiency & renewable energy

# Sustainable Water Infrastructure

## EPA's Four Priority Areas

1. Better management
2. Full cost pricing
3. Water efficiency
4. The watershed approach

A scenic view of a rocky coastline. In the foreground, there are large, layered, greyish-brown rocks. In the middle ground, a white lighthouse with a red roof and a white house with a red roof are situated on a cliff overlooking the ocean. The ocean is blue and calm, with a small sailboat visible in the distance. The sky is a pale, hazy blue.

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