

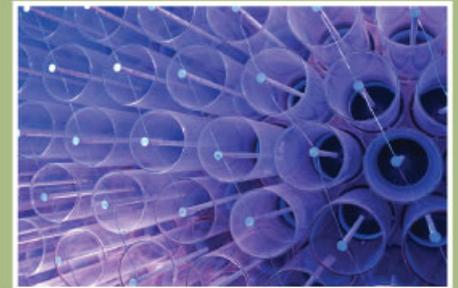


**NEW JERSEY
AMERICAN WATER**

Water and Wastewater Infrastructure

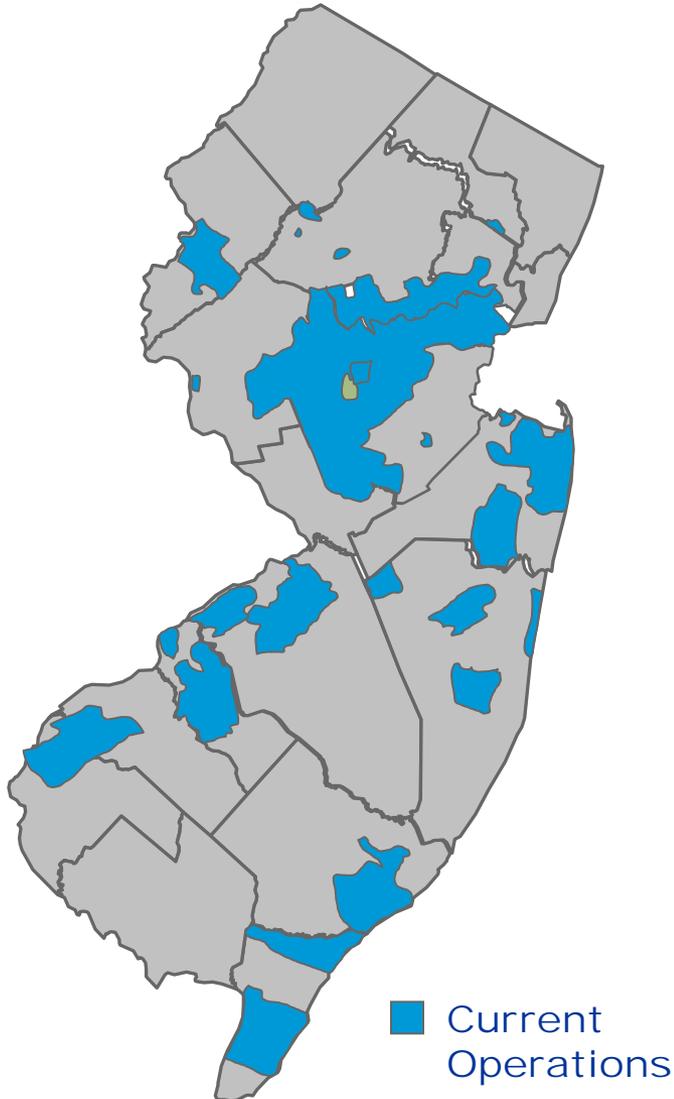
**NJ League of Municipalities
December 12, 2012**

**Suzanne Chiavari
Vice President - Engineering**





New Jersey American Water



Customers	625,000
Population Served	2 Million
Water Sales	91 BGY (247 mgd)
Water & Sewer Mains	8,600 miles
Monthly System Pumpage	239-355 mgd

Max Day (mgd)	# Water Systems
< 1.0	14
1-25	10
25-100	3
214	1

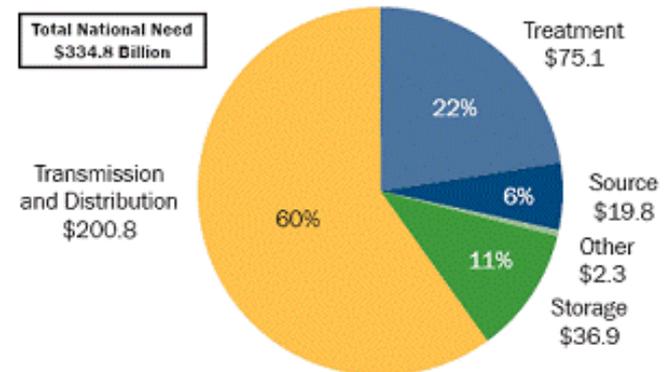
mgd = millions of gallons per day



National Issue: Sustainable Water Infrastructure

- **ASCE 2009 Fact Sheet**
 - Leaking pipes lose ~7 billion gpd
 - America's DW systems face an annual shortfall of \$11 billion
 - U.S. Report Card: D-
- **USEPA Needs Assessment**
 - \$334 B / 20 yrs
- **NJ 20-Yr Need**
 - Water \$7 Billion
 - Wastewater \$9 Billion

Total 20-Year Need by Project Type (in billions of January 2007 dollars)



Note: Numbers may not total due to rounding.

USEPA Drinking Water Infrastructure Needs Assessment Study 2007



Water and Wastewater Systems Are Asset Intensive

- **Above Ground Infrastructure**
 - Treatment Plants & Pump Stations (60-70 yr design life)
 - Mechanical & Electrical (15-25 yr design life)
 - Dams, Storage Tanks, Reservoirs (50-80 yr design life)
- **Distribution System**
(60-95 yr design life)
 - Valves, fittings
 - Hydrants
 - Manholes



- * source: ASCE 2009 Report Card for America's Infrastructure



Why Invest: Value of Water to Communities

- Critical public health function
- Essential to life, economy, attracting business
- Core during disaster response
- Must be designed for resiliency
- Support green infrastructure quality of life





Specific Types Investments for a Sustainable Water Infrastructure

- 💧 **Asset Management Plan**
- 💧 **Replace & Renew Aging Water and Sewer Infrastructure**
- 💧 **Advance Water Treatment for Improved Quality**
- 💧 **Leverage Technology for Efficiency & Quality of Service**
- 💧 **Be an Environmental Steward**
- 💧 **Protect our watersheds**





Asset Management

Who should do an asset management plan?

- All systems regardless of size or ownership
- Put in place a long-term plan that will sustain the systems

What are the elements of Asset Management Plans

1. What is the current state of my assets?
 2. What is my required "sustainable" level of service?
 3. Which assets are critical to sustained performance?
 4. What are my minimum life-cycle costs?
 5. What is my best long-term funding strategy?
- EPA's [Asset Management: A Best Practices Guide](#) (EPA-816-F-08-014, April 2008).



Asset Management Benefits

- Prolonging asset life
- More informed decisions
- Reducing overall costs for both operations and capital expenditures
- Efficient and focused operations and maintenance
- Budgeting focused on activities critical to sustained performance
- Setting rates based on sound operational and financial planning

- Meeting consumer demands with a focus on system sustainability
- Meeting service expectations and regulatory requirements
- Improving responses to emergencies
- Improving the security and safety of assets



What Assets are You Managing?

- Date back to the late 1800s
- Service requirements are different than 1900.
- Today's standards design
 - ◆ improved fire protection
 - ◆ improved corrosion control
 - ◆ heavier traffic loads
 - ◆ other underground utilities
 - ◆ mitigating pressure surges
- Additional energy options





💧 What Challenges Lie Ahead?

- **Advances in public health protection: water quality standards continue to become more stringent.**
 - ◆ Monitor for hundreds of contaminants (ppm, ppb, ppt)
 - ◆ Inactivate microbes & viruses that were unheard of years ago
 - ◆ Remove pharmaceuticals & personal care products
 - ◆ Safety for the community and workers also advance
- **Green and Gray Infrastructure Planning**
- **Limited funding options**
- **Need comprehensive approach to funding**
- **Need to elevate discussion on price vs value**



The Value of Water - Use Wisely

- Limited natural resources
 - ◆ Critical areas
 - ◆ Salt water front
- Drought management
- Base streamflows
- Maximum day capacity
- Monthly & Annual Allocations
- Energy & chemical costs





EPA's 5 Things You Should Know:

1. The Facts - the water infrastructure challenge
2. What Sustainable Water Infrastructure Looks Like
3. The Benefits - what sustainable water infrastructure does for your community.
4. Your Role - the responsibilities all local officials share as a steward of your community's infrastructure wealth.
5. Your Story - past issues, solutions, and the current operational state of components of your community's water infrastructure systems.

<http://water.epa.gov/infrastructure/sustain/localofficials.cfm>



EPA's Five Things You Should DO:

- **Manage Infrastructure for the Long Term**
 - Use Asset Management to develop a long-term infrastructure plan.
- **Maximize Dollars Through Efficiency**
 - Reduce operating costs through increased efficiency.
- **Ask for Alternative Solutions**
 - Explore innovative approaches and new technologies.
- **Talk About It**
 - Build public support through education
 - Increased awareness of water infrastructure issues.
- **Initiate or Expand Collaboration**
 - Look across the water sector and beyond to build partnerships that save money and bolster sustainability.



NEW JERSEY
AMERICAN WATER



Be committed to
leaving a legacy
of
sustainable water infrastructure

"It is very, very difficult to run a first-class county or city on second-rate infrastructure." —Commissioner Melanie Worley,
Douglass County, CO