

Sustainable Water Systems for New Jersey's Cities

New Jersey Environmental Grantmakers
February 12, 2015

Chris Sturm
New Jersey Future



About New Jersey Future

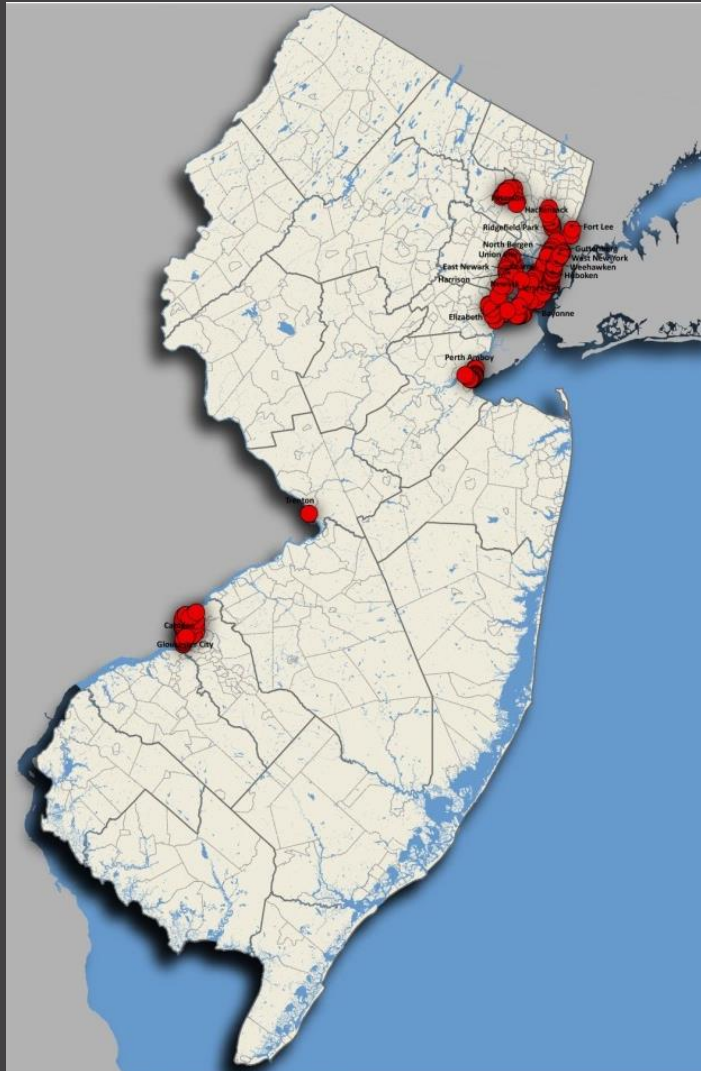
Smart Growth
research, policy, advocacy and assistance



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21 Cities with Promise



Understanding the Problem

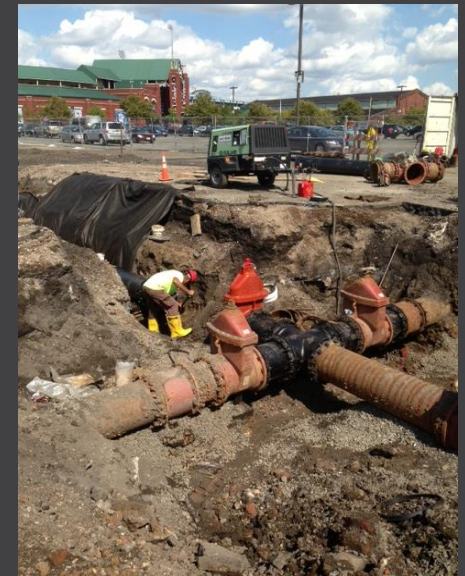


New Regulatory Requirements

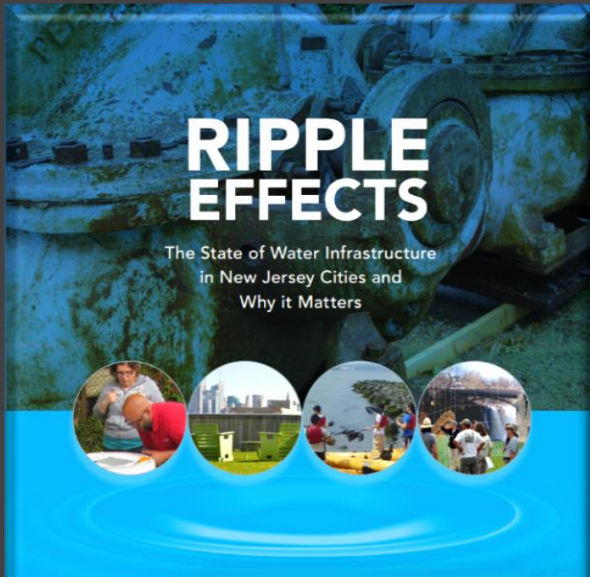
- Final permits imminent
- “Long Term Control Plans” must be adopted in three to five years
- Decades-long implementation process
- Estimated cost: \$4 – 13 billion



The Opportunity and the Challenge



Research: The State of Water Infrastructure in New Jersey Cities



PART I THE STATE OF WATER INFRASTRUCTURE IN NEW JERSEY CITIES

A Leading Federal Mandate for NJ Cities
All municipal sewer systems are required to deliver clean drinking water, collect and treat wastewater and manage stormwater to avoid flooding. Many of these systems in New Jersey require major upgrades due to deferred maintenance, aging infrastructure, and a lack of funds to pay for these upgrades. In fact, many cities are particularly vulnerable to flooding because of outdated infrastructure that was never designed to handle the volume of water that is now being discharged into the sewer system through 27 outfalls into the New York/New Jersey Harbor Estuary and the Hackensack, Passaic and Delaware Rivers.

Combined sewer systems were developed as a solution for the disease-ridden, flood-prone urban areas of the late 18th and early 19th centuries. At the time, cities were unable to remove sewage and stormwater quickly. Today, combined systems collect sewage in a treatment plant, but do not separate them. However, they also carry stormwater during wet weather events, collecting rainwater that runs off buildings and streets, which the combined volume of sewage and stormwater flows a lot higher for the treatment plant to handle, causing sewer backups and overflows.

South Jersey's CSO Communities

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particular to federal or state permits or orders under which municipalities are prohibited. Only by using discharge into New Jersey's CSOs could New Jersey cities improve their CSO systems and meet CSOs' long-term goals of preventing CSOs from contributing to collect and discharge rainwater from their discharges.

But New Jersey cities are about to start catching up. In January 2014, the NJCEP issued funding and model technical permits for each CSO municipality that establish a tight timeframe for the adoption of long-term control plans. These plans must include designs for new sewer and stormwater infrastructure that will meet CSOs' long-term requirements, and also provide a schedule for testing and implementation. Once that permit is issued (scheduled for January 2015), the CSOs will have two to three years to develop the long-term control plan and having NJCEP approval to begin implementation purposes that may take decades to complete. Once the permit is issued, municipalities may face penalties or other litigation.

New Jersey's CSO Impact by Municipality

The scale and impact of New Jersey's CSOs

Municipality	Number of CSO Discharges	Volume of CSO Discharges (MGD)	Population (2010)	Percent of Discharge Volume
Beverly	2	0.001	1,000	0%
Camden City	31	60	2,300	2%
Camden Township	21	90	14,000	1%
Elizabeth	2	20	100,000	0%
Elizabeth City	2	20	100,000	0%
Elizabeth Township	2	20	100,000	0%
Elizabeth City	2	20	100,000	0%
Elizabeth Township	2	20	100,000	0%
Elizabeth City	2	20	100,000	0%
Elizabeth Township	2	20	100,000	0%

The amount of total water not sewered at all due to separate, sanitary, etc. The number of CSO outfalls ranges from zero in Camden City to one in...

Water Infrastructure in New Jersey's CSO Cities: Elevating the Importance of Upgrading New Jersey's Urban Water Systems

May 2014

Prepared for NJ Future
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Chapter 3: Water and Water Infrastructure Issues for CSO Municipalities

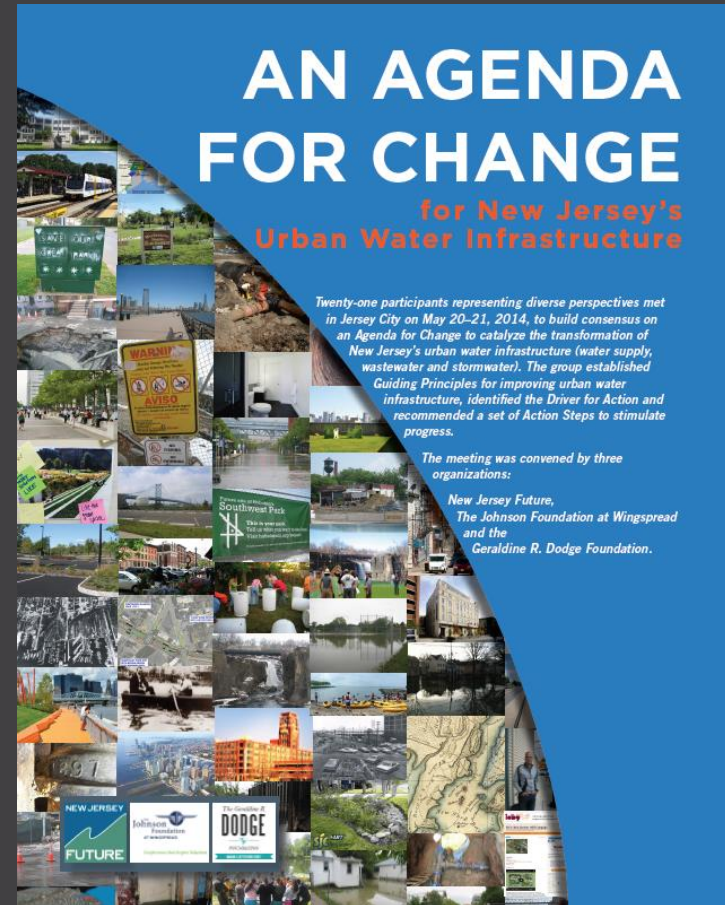
The 27 CSO municipalities are listed in Table 3.1 as provided by NJCEP, which lists the number of CSO discharge points, the receiving waters, the events that actually will require the CSO individual permit, and the existing sewage treatment facility.

Waterbody(s)	Permitted	Municipality	Receiving Waters	CSO ^A	CSO ^B
Delaware River	CO/MS	Camden	Delaware River Chinoweth River	28	Camden Council Municipal Utilities Authority (CCMAU)
Delaware River	CO/MS	Camden	Delaware River	1	CCMAU
Delaware River	CO/MS	Camden	Delaware River	1	CCMAU
Delaware River	CO/MS	Camden	Delaware River	1	CCMAU
Delaware River	CO/MS	Camden	Delaware River	1	CCMAU
Delaware River	CO/MS	Camden	Delaware River	1	CCMAU
Delaware River	CO/MS	Camden	Delaware River	1	CCMAU
Delaware River	CO/MS	Camden	Delaware River	1	CCMAU
Delaware River	CO/MS	Camden	Delaware River	1	CCMAU
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Delaware River	CO/MS	Camden	Delaware River	1	CCMAU
Delaware River	CO/MS	Camden	Delaware River	1	CCMAU



A Shared Strategic Approach

- Guiding Principles
- The driver for action
- Strategic action steps



Bridging the Gap to Best Practices

- ✓ Educate and Raise Awareness
- ✓ Promote Best Practices
- ✓ Build Capacity and Foster Collaboration
- ✓ Use Green Infrastructure to Build Support
- ✓ Diversify Funding Sources

SAVE THE DATE Reinvesting in Urban Water Infrastructure through Combined Sewer Overflow Long Term Control Plans

THURSDAY, JANUARY 8, 2015
9AM – 4PM



Joining Forces in a Working Group

**REGULATORS:
NJDEP and USEPA**

**PERMITTEES:
Regional
Wastewater
Utilities**

**PERMITTEES:
Municipalities**

**RATEPAYERS:
Residents
(who are
also voters)**

**RATEPAYERS:
Businesses
and
Property
Owners**

**Share
Coordinate
Educate
Advocate**



Connect and Coordinate

www.njfuture.org/water

Sign up for urban water mailing list

Monthly e-newsletter

Resources

Past Events

News Articles

Upcoming Events

The screenshot shows the 'Urban Water Infrastructure' section of the New Jersey Future website. The page features a navigation menu with links for 'Smart Growth 101', 'About New Jersey Future', 'Current Work', 'News', 'Research and Publications', 'Events', and 'Donate'. The main content area is divided into several sections:

- Urban Water Infrastructure:** A introductory paragraph about the multi-billion-dollar cost of fixing combined sewer systems. Below it is a 'Sign Up for the Mailing List' button and a link to 'Join our Urban Water Solutions Network'.
- Water Infrastructure that Works for Cities:** A resource section with a 'Download' button for a report on best practices for long-term control plans.
- Model RFP for New Jersey Combined Sewer Overflow Long Term Control Plans:** Another resource section with a 'Download' button for a model Request for Proposal.
- Ripple Effects:** A section with two parts: 'The State of Water Infrastructure in New Jersey Cities' and 'Why Water Infrastructure Matters - Stories from Four Cities', both with 'Download' buttons.
- An Agenda for Change:** A section with a 'Download' button for recommendations from a 2014 agenda for change.

On the right side of the page, there is a 'Combined Sewer Overflow Map' showing state-permitted discharge points in New Jersey. Below the map is a 'Recent Events' section listing conferences and workshops, and a 'Browse by Category' section with a dropdown menu. At the bottom right, there is an 'Upcoming Events' section listing dates and topics.



Educate and Engage



When is the last time you did each of these activities?	Yesterday	In the last 7 days	In the last month	In the last 12 months
Ate at a restaurant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Saw a movie in a theater	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heard a live performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Went bowling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What word(s) would you use to describe the product?

<input type="checkbox"/> Sleek	<input type="checkbox"/> Interesting
<input type="checkbox"/> Worthless	<input type="checkbox"/> Comfortable
<input type="checkbox"/> High-tech	<input type="checkbox"/> Stupid
<input type="checkbox"/> OK	<input type="checkbox"/> Ugly

How satisfied are you with the product?

<input type="radio"/> Extremely Dissatisfied
<input type="radio"/> Very Satisfied
<input type="radio"/> Somewhat Satisfied
<input type="radio"/> Slightly Satisfied
<input type="radio"/> Not at All Satisfied

- Daylong Conference on CSO Solutions DEP/EPA/NJF
- Mayor's Lunch
- *Coming: regional workshops? Annual conference?*
- *Survey*

Elevating the Issue

New Jersey Lagging On Long-Term Water Plans

By Sara Jerome
@sarmje

As other states update their master plans, New Jersey is stalling.



New Jersey Future
January 6 · 🌐

We worked with Rutgers to study the feasibility of adding green-infrastructure elements around Trenton's Assunpink Creek. The study report found that indeed it would be feasible, in multiple locations that would help make the creek and the surrounding neighborhoods into a true urban asset.



Trenton Green Infrastructure Study | New Jersey Future

A new study highlights opportunities in Trenton where green infrastructure can be incorporated in order to reduce stormwater runoff.

WWW.NJFUTURE.ORG

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NJ toughens raw sewage rules

JANUARY 8, 2015 · LAST UPDATED: THURSDAY, JANUARY 8, 2015, 8:33 AM

BY JAMES M. O'NEILL
STAFF WRITER | THE RECORD

The state will force towns to dramatically reduce the billions of gallons of raw sewage and toxic waste their old sewerage systems routinely dump into local rivers and bays.

State environmental officials on Wednesday unveiled a program that will require

cut billions of gallons of raw sewage and toxic waste their old sewerage systems routinely dump into local rivers and bays.

Print



Promoting Best Practices

Water Infrastructure That Works for Cities

Best Practices and Considerations for Preparing Long Term Control Plans to Control Combined Sewer Overflows



JANUARY 2015

Prepared for New Jersey Future by
Hatch Mott MacDonald and HDR



- Best practice resources created for CSO permittees
 - Water Infrastructure that Works for Cities
 - Model RFP



Passaic Valley Sewerage Commission workshop where best practice documents were presented to CSO permittees and needs were discussed.



Funding Strategies

- “Layered Projects”
- Stormwater Fees
- User Fees
- Affordability & Equity



Hoboken BASF Park



Rotterdam Museum Park: Underground parking and stormwater storage



An example of how the Stormwater Trust Fund could function surrounding the current opportunity of BASF Park

Gaps and Opportunities



Moving Forward Together

Establishing shared goals

Connecting and
empowering others

Reaching decision makers



Thank you!

Resources

www.njfuture.org

- Best Practice Reports
- Potential Collaborators
- Newsletter sign-up
- News articles

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