New Jersey Future
Smart growth research, policy, advocacy and assistance

www.njfutuore.org
This campaign brings together grassroots organizations and residents of environmental justice communities with combined sewer systems to advocate for compliant Long Term Control Plans and robust community engagement around the planned water infrastructure projects.
What Are Combined Sewer Overflows (CSOs)?

Treatment plants are unable to handle flows that are more than twice the design capacity. When this occurs, a mix of stormwater and untreated sewage discharges directly into the waterways, as well as causing backups into basements and streets.
Where Are NJ CSOs?

North Jersey's CSO Communities

South Jersey's CSO Communities

Paterson
Hackensack
Ridgefield Park
Fort Lee
North Bergen
Union City
East Newark
Kearny
Harrison
Newark
Jersey City
Elizabeth
Bayonne
Perth Amboy

Camden
Gloucester City
Trenton
The amount of sewage overflow during Sandy, 11 billion gallons, is equivalent to the entire area of Central Park — 843 acres/1.4 square miles — stacked 41 feet high with sewage or more than 50 times the BP oil spill.

CSOs discharge upwards of 23 billion gallons of this toxic brew annually into rivers and bays.
How will climate change impact combined sewer systems? And how will combined sewer systems impact climate change.
Effects of Climate Change on CSOs

- Increased flooding > overwhelms the system
- Sea level rise > water back ups
- More power outages with severe storms > wastewater treatment plants rely on electric power

Photo Credit: Martha Arencibia
Every time it rains a lot, and human pollutants are carried by the excess stormwater into surrounding waterways, wetlands lose their ability to contain the carbon, allowing more greenhouse gases to enter the atmosphere.
What Are the Impacts of CSOs?

- **On Our Neighborhoods** – localized flooding, water main breaks, impaired water quality and contamination.
- **On Our Economy** - hurts businesses, impedes transportation
- **On Our Health** - fouls waterways, polluted flooding
- **On Our Future** – not able to handle increased rainfall and a changing climate
Other dilemmas

- Amt. sewage released is not tracked
- Outdated rainfall data used when planning upgrades
- Cost of upgrading falls to those least able to afford it
- Renters = can’t flood proof; limited awareness
What Can We Do About it?

- Adapt to increased high-tide at sewage discharge points
- Mitigate increased flows in the sewers
  - Provide tide gates, dams, valves to mitigate backflow
  - Raising sewer outflows
  - Sewer separation for stormwater and wastewater to alleviate sewer capacity issues & reduce pollutant loads
  - GI, less impervious > reduces flow to sewers
  - Storage facility/tunnel: often temporary
- Renewable energy to lessen power outages > CSO remains operational (build resiliency)
- More current rainfall projections for models
Key Mechanisms

- The CSO permit and Long-Term Control Plans (LTCPs).
  - Under the Clean Water Act, waterway pollution regulations have been implemented, and point sources of pollution have been required to have a permit.
  - In accordance, DEP issued permits in 2015 to municipalities with CSOs. Permits required LTCPs on how to deal with the CSOs.
  - LTCPs are plans & implementation schedules for eliminating the discharges. Submitted in 2020. Public Stakeholder process. DEP asked for revisions = address flooding, prioritize projects with the most impact, and take climate change into account.
  - Forthcoming CSO permits will state the specific projects and timelines that each municipal permit holder will implement in the next five years, as well as general conditions that will apply to all of the permits related to issues like public engagement and metrics for evaluating the projects.
Key Mechanisms

- Zoning changes that require green infrastructure
- Municipal ordinances
- Funding through grants and stormwater utilities
- Lobby/advocate for faster permit release; strengthened permits
SFSR recommendations for the forthcoming CSO permits:

- Adopt an official state sea level rise standard to guide planning for combined sewer overflow plans and projects.

- Adopt a future model year for project design to account for the future impacts of climate change.

- Require CSO permit holders to use the NJDEP’s adopted statewide sea-level rise standard, revised official design storm standard and model year for designing, planning and evaluation of CSO projects.
SFSR recommendations for the forthcoming CSO permits:

- Require utility permit holders to incorporate energy efficiencies and projects that will get them to reach zero emissions from their treatment plants.
- Significant capital improvements will be required. Stakeholders should advocate for more federal and state funding for such improvements.
- Adopt a Green Infrastructure approach first.
- Ensure equitable financing of these plans.
- Prioritize permit release in Environmental Justice communities.
What Others Are Doing: Case Studies

South Bend, Indiana

- 1-2 billion gallons of polluted water dumped in the Saint Joseph River annually
- Instead of gray infrastructure, installed a real-time monitoring technology of more than 120 sensors located throughout the City’s urban watershed.
- And a distributed real-time decision support system (RT-DSS) consisting of smart sensors and actuators that trade available conveyance capacity in real time, like an underground stock market, to avoid flooding.
- Since 2012, have eliminated dry weather overflows and reduced combined sewer overflow (CSO) into the Saint Joseph River by more than 70 percent.
What Others Are Doing: Case Studies

Norfolk, VA – various agencies:

Passed changes to its flood and coastal zone ordinance following increases in severe coastal flooding and in anticipation of potential sea level rise. The ordinance requires that new structures in coastal flood zones must be built at least 3 feet above the 100-year floodplain.
SEWAGE FREE STREETS AND RIVERS

Your Waterways, Your Neighborhood, Your Money, Your Voice

For More Information
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