



A Newsletter of the North Hudson Sewerage Authority

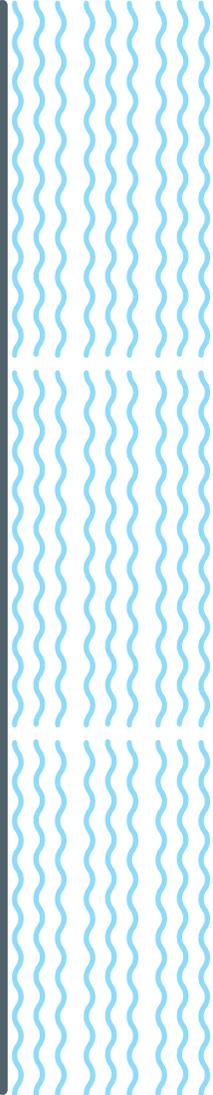
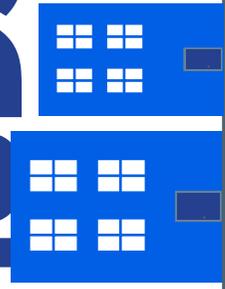
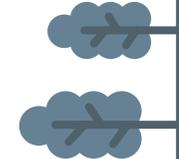
This series of newsletters is designed to familiarize customers and residents with North Hudson's long-term plans to reduce CSOs. Our first newsletter, available upon request, gave a general explanation of the North Hudson system and the challenges involved in reducing CSOs. This second volume explains "system characterization."

Visit us at www.nhudsonsa.com and follow us on Twitter at [@northhudsonsaLTCP](https://twitter.com/northhudsonsaLTCP) for ongoing information and updates.

Join North Hudson to discuss the development of the LTCP and its progress at upcoming public meetings this year on August 19th and November 18th. The meetings are held at North Hudson's office at 1600 Adams Street, Hoboken.

Dr. Richard J. Wolff
Executive Director, NHSA

THRIVE, HUDSON RIVER



VOL 2

STEWARDS OF THE HUDSON RIVER

One of the most important roles of the North Hudson Sewerage Authority (North Hudson) is contributing to the ongoing water quality improvement of the Hudson River. This almost 50-year effort, which was mandated by the 1972 Clean Water Act, has made great progress. Today, fish have returned to the river waters and kayaks are a common sight.

Getting to this point has not be easy, especially because North Hudson has a combined sewer system. Most of our system is a single pipe system, combining, when it rains, stormwater with wastewater.

In dry weather, the wastewater passes easily through the treatment plants, and the cleaned flow is discharged harmlessly into the Hudson River. But when it rains, the combined flows can become too much for the wastewater plants to handle. The plants are by-passed, and some of the combined wastewater and stormwater (CSO) is discharged into the Hudson River.

A LONG-TERM PLAN TO REDUCE CSOs

These partially treated overflows do not help to make the River cleaner. That's why in 2015 the Federal and State governments required all NJ water body dischargers with CSOs to develop plans to reduce the number of combined overflows. Since then, North Hudson has been working on a Long-Term CSO Control Plan (LTCP) which is due in June 2020.

The LCTP has several stages: system characterization, development of alternatives, selection of approach, and implementation – all spread over the next 20 to 30 years.

WHAT DO WE KNOW ABOUT OUR CSOs?

For years, North Hudson has been regularly updating its information database. So, we already know a lot about our CSOs. This gives us a head-start in our long-term planning.

Our Geographic Information Systems (GIS) have the locations, age, materials, and other data on our assets. Our maintenance programs keep track of our sewer cleanings, inspections and repairs. We have state-of-the-art monitoring systems to operate our facilities and collect data that we use to improve our operations.

We participate in a Hudson River water quality monitoring program with other wastewater authorities. We also provide the public with a real-time alert system of when CSOs occur, which can be viewed online at www.nhudsonsa.com. This is particularly helpful to those recreational users of the Hudson.

But to develop our LTCPs, we needed more detailed investigations to understand our systems. That's where "system characterization" comes in.



STEP 1: SYSTEM CHARACTERIZATION

System characterization is just a fancy phrase for knowing the ins-and-outs of our operations and assets. What do we have? How is it working? What kind of shape is it in?

The primary objective is to develop a detailed understanding of our combined sewer system and its impact on the Hudson River. This assessment establishes the existing baseline conditions. From there, we can figure out what we need to do to improve Hudson River water quality. In short, the characterization work helps to identify and prioritize specific CSO controls that will be in our LTCP.

PROGRESS TO DATE

We started our system characterization program in 2015. Here's what we've done so far.

- We compiled the latest information on land uses and planned developments that will affect sanitary and drainage flows.
- Street by street, we deployed crews with GPS systems to confirm the locations of all our catch basins, pipes, manholes and other assets to update our GIS databases.
- We used cameras to get a better handle on the condition of our pipes and to quantify the amount of water that is infiltrating our sewers from groundwater and drinking water pipe leaks.
- We collected water samples from our sewers when it was raining to test for bacteria concentrations.



- We deployed sensors in our sewers to measure flows during dry and wet weather for six months.
- Using the sensor data, we compiled computer models of our sewers.
- We used our models to calculate the dry and wet weather flows to monitor performance.
- We participated in a new, year-long monitoring program of the Hudson River to test for bacteria and identify sensitive areas for recreation uses and fish and wildlife habitat.

HOW ARE WE USING THIS INFORMATION?

Our engineers have been using the data collected from all these programs to draw a picture of the condition and performance of our systems. In the next edition of this newsletter, we will share our findings.