

08 Storm and Wastewater

Target Statement

By 2050, Long Term Control Plans (LTCP) will be fully implemented in all combined sewer systems that discharge to the Hudson River, and wastewater treatment plants throughout the watershed will no longer regularly discharge untreated sewage. Clean water is vital to all aspects of life in the Hudson Valley, from drinking water for communities, to infrastructure for economic growth, to clean headwater streams and estuary waters supporting robust fisheries and recreation. By 2030, 25 projects likely to measurably improve conditions within whole tributaries or entire municipalities have been implemented in priority locations to improve wastewater infrastructure or stormwater management.

Summary

The Hudson River Valley is designated a National Heritage Area, with a growing recreation and tourism economy centered on the Hudson River estuary itself and the towns and villages along its shores. However, both the perception, and reality, of continued poor water quality in the estuary limit opportunities for expanding attractive uses of the estuary and its community waterfronts. Wastewater is water that has been used in homes, businesses or for agricultural purposes. During use, the water can pick up contaminants such as pathogens, organic matter, nutrients, industrial chemicals, pharmaceuticals and sediment. Stormwater is runoff generated from rain or snowmelt that flows over land or impervious surfaces, such as paved streets and building rooftops, and does not soak into the ground before reaching a waterway. During travel over surfaces, or through infrastructure pipes, stormwater picks up contaminants like trash, metals, road salt, pesticides, oil, nutrients, animal waste and sediment. Unless properly treated, the various contaminants picked up by waste and stormwater are discharged to the estuary or its tributaries and contribute to both the perception and reality of less than optimal water quality conditions.

The Hudson River estuary receives waste and stormwater from communities that house nearly 1% of the US population (roughly 2.8 million people), either through direct discharges, or indirectly through tributaries. Despite long-term positive trends in treatment capacity and estuary water quality, these wastes and stormwater discharges continue to be major sources of multiple pollutants that threaten public health, impede recreational use, depress economic activity related to recreation and waterfront revitalization, and degrade environmental functions of the estuary.

The sheer volume of waste and stormwater generated in the region is challenging existing collection and treatment capabilities. There are currently 45 wastewater treatment facilities including 11 combined sewer overflow communities, discharging into the estuary north of Yonkers. These facilities are served by over 1500 miles of sewer pipe some of which may date back 100 years or more. Maintaining and upgrading waste and stormwater infrastructure will be expensive and take considerable time and resources to achieve measurable results. This existing infrastructure is further challenged by climate change. Current projections of more frequent extreme storms imply a need to handle increased stormwater flows, as well as flooding damage to infrastructure from storm surges (as occurred during Tropical Storm Irene and Superstorm Sandy). Rising sea levels pose a long-term threat to waste and stormwater infrastructure in estuary communities, because much of the infrastructure is in the floodplain. Prioritization of necessary upgrades is very straightforward as about 25 % of the treatment facilities discharging directly to the estuary are in the 100-year floodplain and most likely to be impacted by present-day flood events or the first to be impacted by sea level rise. These at-risk facilities, and those currently not meeting treatment standards, should be the first to receive upgrade support.



The immediate challenge in reducing waste and stormwater impacts in the Hudson River estuary is to decrease stormwater flows and combined sewer overflows while improving waste and stormwater treatment where necessary. Considering the complexity and age of the infrastructure, the number of communities and expense involved, careful study and planning is essential to ensure that actions are appropriately prioritized. Improved monitoring, assessment and public reporting activities can begin immediately and will significantly inform the strategic deployment of resources. Upgrading treatment facilities and associated assets and eliminating sources of contamination

carried by storm and wastewater is under way in the Capital District (e.g., “Albany Pool”), and long-term control plans are underway for all combined sewer systems. Finally, adapting to new standards as health and ecosystem thresholds of existing and emerging contaminants become better understood, responding appropriately to climate change and planning for eventual reinvestment are long-term priorities that must also be addressed to maintain high water quality.