

Green Infrastructure Program

Community Partner Profiles

2011 Partners

REGION 5: Northeast Ohio Regional Sewer District

Community Background

Cleveland is located in the northeastern corner of Ohio on the shores of Lake Erie. The City of Cleveland is home to about 400,000 residents, and the greater metropolitan area is home to more than 2 million. The Cuyahoga River and Ohio Eerie Canal flow through the city and were a catalyst for the city's urbanization and industrialization for many decades. Since 1990, however, Cleveland has experienced a significant population decline, with the population falling from more than 500,000 to less than 450,000 in 2008 (representing a 15 percent decline in only 18 years). As the population decline continues, the number of vacant lots grows is growing. The city now has more than 20,000 vacant lots representing more than 3,300 acres of vacant urban land. The City of Cleveland has also experienced increasing poverty rates in the past few decades, with the poverty rate rising from 8.9 percent in 1970 to 10.8 percent in 2000.

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The Northeast Ohio Regional Sewer District (the District) coordinates wastewater and stormwater management for a large portion of the Cleveland metropolitan area, serving more than one million residents of Cleveland and its suburbs. Wastewater and stormwater in the District's service area is managed by a vast system of sewers and treatment plants, consisting of more than 3,000 miles of local sewers, 300 miles of interceptor sewers, and three wastewater treatment plants. Within the Greater Cleveland area, there are a total of 126 permitted outfalls where combined sewer overflows release to the environment. The District has tracked and recorded these CSO events throughout Cleveland.

Drivers for Green Infrastructure

In 2005, the District entered into negotiations with the U.S. Department of Justice (DOJ), the EPA, and the Ohio Environmental Protection Agency to develop a plan for reducing its CSOs. The purpose of the negotiations was to develop a Long Term Control Plan (LTCP) that would provide an adequate level of CSO control within an acceptable time frame, while recognizing the region's finite financial capability.

In 2010, the District adopted the negotiated LTCP and signed a consent decree with the DOJ, EPA, and the Ohio EPA. Unlike the initial plan, the consent decree calls for a mix of both green and gray infrastructure to reduce CSOs by 44 million gallons by 2018. The initial plan relied solely on large storage tunnels to capture the large amounts of runoff and sewage within the District.

The inclusion of green infrastructure is intended not only to improve water quality in the Great Lakes, but also to revitalize the District's communities and to provide more cost-effective investments for rate payers. With the large flux of residents out of the city, the District is faced with fewer customers to pay the same bill, and is compelled to collect higher fees from its customers. The green infrastructure component of the new LTCP will provide the District's customers with a wider range of more visible benefits in return for their utility fees.

Green Strategies and Programs

Project Clean Lake is the primary vehicle through which the District is implementing green infrastructure. The project itself guarantees a minimum investment of \$42 million in green infrastructure practices that address the District's stormwater and CSO issue. These practices will increase the storage, infiltration, and evapotranspiration capacity of the landscape and retain the runoff that would otherwise flow into the combined system.

The District is considering 38 areas for revitalization. In December 2011, the list of potential areas will be presented to the federal and state government for review and prioritization. The revitalization will involve the implementation of best management practices to both capture and treat stormwater runoff.

The District would like to convert 1,000 acres of parking lots, roadways, and abandoned buildings to green spaces and ponds for the community to utilize. The restoration of green space within the District's boundaries will reduce the volume of stormwater entering the combined system and thus reduce the number and frequency of CSOs in the Cleveland metropolitan area.

One project that is nearing completion is the Collinwood Recreation Center. This \$11 million complex utilizes bioretention ponds, sand beds, and a 1,800 gallon cistern to capture stormwater before it enters the combined sewer system. The site also receives runoff from many of the vacant lots that line Lakeshore Boulevard. The project is intended to increase community awareness of and support for green infrastructure.

For more information: [Northeast Ohio Regional Sewer District](#)