

# Gowanus Canal

## New York

EPA ID#: NYN000206222

### EPA REGION 2

Congressional District(s): 07

Kings

End of 5th Street

NPL LISTING HISTORY

Proposed Date: 4/9/2009

Final Date: 3/4/2010

## Site Description

The Gowanus Canal is a 100-foot wide, 1.8-mile long canal located in the New York City borough of Brooklyn, Kings County, New York. Connected to Gowanus Bay in Upper New York Bay, the canal borders several residential neighborhoods including Gowanus, Park Slope, Cobble Hill, Carroll Gardens, and Red Hook. The adjacent waterfront is primarily commercial and industrial, currently consisting of concrete plants, warehouses, and parking lots. There are five east-west bridge crossings over the canal, located at Union Street, Carroll Street, Third Street, Ninth Street, and Hamilton Avenue. The Gowanus Expressway and the IND Culver Line of the New York City Subway, an aboveground section of the original Independent Subway System, pass overhead.

The Gowanus Canal was built to allow access for industrial needs by bulkheading and dredging a tidal creek and wetland that had previously been fished for oysters. After its completion in the 1860s, the canal quickly became one of the nation's busiest industrial waterways, home to heavy industry including gas works (i.e., manufactured gas plants), coal yards, cement makers, soap makers, tanneries, paint and ink factories, machine shops, chemical plants, and oil refineries. It was also the repository of untreated industrial wastes, raw sewage, and surface water runoff for decades, causing it to become one of New York's most polluted waterways. Although much of the industrial activity along the canal has stopped, high contaminant levels remain in the sediments. Despite the ongoing pollution problems, some city dwellers currently use the Gowanus Canal for recreational purposes, such as canoeing and diving, while others catch fish for consumption.

The canal is part of the New York-New Jersey Estuary, which the EPA has designated an Estuary of National Significance.

## Threat and Contaminants

Numerous sampling events have shown the sediments in the Gowanus Canal to be contaminated with a variety of pollutants, including polycyclic aromatic hydrocarbons (PAHs), volatile organic contaminants (VOCs), polychlorinated biphenyls (PCBs), pesticides, and metals. PAH concentrations were found to be as high as 45,000 milligrams per kilogram (4.5%) and the contamination was found to traverse the entire length of the canal. Many of the detected contaminants are known carcinogens. The contaminated sediments pose an immediate risk to the fishery located just downstream of the canal in Gowanus Bay. This fishery is well documented, and fish caught there are used as food.

## Cleanup Approach

The site will be addressed in one stage—a long-term remedial phase focusing on the cleanup of the entire site.

Response Action Status:

The Canal has been heavily contaminated throughout its existence. No environmental remediation has been undertaken to date.

PRP-performed efforts are currently underway, under New York State authorities, at three former Manufactured Gas Plants (MGPs) located along the Gowanus Canal, which are believed to be sources of much of the Polyaromatic hydrocarbon (PAH) contamination in the canal—the former Fulton MGP site; Former Citizens Gas Works MGP site (a.k.a. Carroll Gardens/Public Place); and former Metropolitan Gas Light Company MGP site. National Grid is the PRP for the MGP sites.

In April 2009, the EPA proposed to put the Gowanus Canal on the National Priorities List (NPL). While the community and many elected officials supported the listing, the City of New York and some development interests did not. New York City proposed an alternate approach which would have depended heavily on the assumption of long-term Congressional funding to Corps of Engineers (COE). After consulting extensively with the many stakeholders who expressed interest in the future of the Gowanus Canal and the surrounding area, the EPA determined that a Superfund designation was the best path to a clean up of this heavily contaminated and long neglected urban waterway. The site was listed on the NPL on March 4, 2010.

The EPA, in conjunction with New York City and National Grid, performed supplemental field work to characterize the nature and extent of contamination in the Canal, determine the human health and ecological risks from exposure to contamination in the canal, identify the sources of contamination to the Canal, including ongoing sources of contamination that need to be addressed so that a sustainable remedy can be developed and implemented, and determine the physical and chemical characteristics of the Canal that will influence the development, evaluation, and selection of cleanup alternatives. This work, which supplemented previous studies that have been carried out by the COE and National Grid, included a bathymetric (underwater depth) study, sediment sampling, monitoring well installation, groundwater, surface water, air, sediment, and fish tissue sampling, sewer system sampling, and an investigation of hundreds of pipes that lead to the Canal. A remedial investigation (RI) report was released to the public on February 2, 2011 and a public meeting was held on February 23, 2011 to discuss the results of the study. A feasibility study (FS) was initiated in spring 2011 to develop and evaluate remedial alternatives for mitigating human and ecological risk in canal. The FS report was released to the public on December 30, 2011. An informational public meeting was held on January 24, 2012; nearly 200 people were in attendance.

On December 27, 2012, the EPA released a Proposed Plan describing its proposed remedy for the site. The Proposed Plan recommends removing all of the contaminated sediment that has accumulated as a result of industrial and sewer discharges from the bottom of the canal by dredging. The dredged areas would then be capped. The EPA also recommends controls to prevent combined sewer overflows and other land-based sources of contamination from compromising the cleanup. On January 23, 2013 and January 24, 2013, the EPA conducted public meetings at Public School 58 (the Carroll School) and the Joseph Miccio Community Center, respectively, to present the Proposed Plan for the site, including the preferred remedy, and respond to questions and comments from the approximately 200 attendees at the January 23, 2012 meeting and 100 attendees at the January 24, 2012 meeting. Follow up meetings were held with the Citizens' Advisory Group on February 11, 2013 and the Red Hook community on February 13, 2013 to discuss in more detail the specifics of the Proposed Plan and to answer additional questions from the community. The public comment period concludes on April 27, 2013. It is anticipated that the EPA will select a remedy to address the contamination in the Canal in summer 2013. Site Facts:

As the canal bisects heavily populated communities, there has been broad support to remedy the contamination of the waterway. Mayor Bloomberg highlighted environmental concerns about the Canal in his environmental blueprint, "PlaNYC 2030." There is intense public interest in the Canal and the cleanup plan. A Community Advisory Group has been formed with over 55 members representing a wide range of stakeholders including residents, environmental groups, business groups and developers.

The EPA is actively searching for PRPs. Notice and information request letters have been sent to more than 20 parties, including New York City and National Grid. Administrative Orders of Consent were signed with National Grid and New York City in April 2010 to perform groundwater investigation work on their respective properties under the EPA's oversight.

## Cleanup Progress

Investigatory work is underway at the former Fulton MGP and Former Citizens Gas Works MGP and contaminated soils have been removed from the former Metropolitan Gas Light Company MGP.

The City built a "Flushing Tunnel" in 1911 to replace the stagnant water in the canal with fresh, oxygen-rich water that would improve water quality. The tunnel worked until the 1960s, when mechanical failure caused it to shut down and the canal became polluted and stagnant again. The Flushing Tunnel operated until the mid-1960s, when it fell into disrepair. The Flushing Tunnel was rehabilitated and reactivated in 1999 by the New York City Department of Environmental Protection (NYCDEP). In 2010, the Flushing Tunnel was shut down by NYCDEP to perform facility improvements. This effort includes the installation of more efficient pumping systems, which will increase the volume of water by approximately 40 percent under a peak design flow. Completion of the effort is anticipated by September 2014. The reconstruction of the Gowanus Wastewater Pump Station, which began in February 2010, will increase the pumping capacity to deliver sewage to the Red Hook wastewater treatment plant. All of these ongoing improvements are projected to decrease the overall discharge to the entire canal by approximately 34 percent.

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## **Site Repositories**

EPA Region 2 Superfund Records Center, 290 Broadway, 18th Floor, New York, NY 10007-1866

Carroll Gardens Library, 396 Clinton St., Brooklyn, NY 11231

Joseph Miccio Community Center, 110 West 9th Street, Brooklyn, NY 11231