



EPA completes the remedial investigation of the Gowanus Canal

Community Update

February 2011

Need more information? Here are ways to get what you need:

Call or e-mail:

EPA staff will be happy to answer your questions or add you to our Gowanus Canal mailing list. Call or e-mail:

Natalie Loney
Community Involvement Coordinator
212 637-3639 or 800 346-5009
loney.natalie@epa.gov

Read:

You can review the remedial investigation report on the Gowanus Canal at EPA's Records Center located at:

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

or the information repository located at:

**Carroll Gardens Library
396 Clinton St. @ Union St.
Brooklyn, NY 11231**

Surf the net:

EPA has information on the superfund process, the Gowanus Canal site and other hazardous waste sites in our region on our Web site. You can also join our Gowanus mailing list to receive updates on EPA's activities at:

www.epa.gov/region02/superfund/npl/gowanus/

GOWANUS FIELD WORK COMPLETED

In early December 2009, the U.S. Environmental Protection Agency (EPA) began its **remedial investigation (RI)** of the Gowanus Canal Superfund site. The primary goals of the investigation were to:

- Characterize the nature and extent of contamination in the Gowanus Canal to the degree necessary to evaluate the human health and ecological risks and to develop a remedy to reduce these risks;
- Determine the human health and ecological risks from exposure to contamination in the canal;
- Identify the sources of contamination to the Gowanus Canal, including ongoing sources of contamination that need to be addressed so that a sustainable remedy can be developed and implemented;
- Determine the physical and chemical characteristics of the canal that will influence the development, evaluation, and selection of cleanup alternatives.

The field activities that were conducted included a bathymetric (underwater depth) study, collecting sediment, surface water, air, and ground water samples as well as collecting fish and crab samples. In addition, EPA sampled the **combined sewer overflows (CSO)** and all other outfalls impacting the canal. The investigative field work was completed by late summer 2010.

RESULTS OF THE REMEDIAL INVESTIGATION

The results of the RI along with the results of the human and ecological risk assessment show that chemical contamination in the Gowanus Canal sediments present an unacceptable ecological and human health risk, primarily due to exposure to **polycyclic aromatic hydrocarbons (PAHs)**, **polychlorinated biphenyls (PCBs)**, and metals (barium, cadmium, copper, lead, mercury, nickel and silver). All of these contaminants are thought to have been deposited in the canal as a result of current and historical discharges to the canal. High PAH concentrations are found in coal tar waste adjacent to the three former Manufactured Gas Plant sites

www.epa.gov/region02/superfund/npl/gowanus/

Glossary:

Remedial Investigation: An in-depth study designed to gather data needed to determine the nature and extent of contamination at a Superfund site.

Combined Sewer Overflows- Combined sewer systems are designed to collect both sanitary wastewater and storm water runoff. During dry weather, combined sewers carry sanitary waste to a Publicly Owned Treatment facility. During wet weather, the combined sanitary waste and storm water can overflow and discharge untreated wastewater directly to a surface water through a combined sewer overflows (CSO).

Polycyclic Aromatic Hydrocarbons (PAHs) - Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances. Some PAHs are manufactured and can be found in coal tar, crude oil, creosote, and roofing tar.

Polychlorinated biphenyls (PCBs) – Polychlorinated biphenyls are mixtures of up to 209 individual chlorinated compounds. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they don't burn easily and are good insulators

Risk Assessment: Using site-related data, the increased human health risks and ecological impacts posed by the contamination in the absence of cleanup measures are determined.

Volatile Organic Compounds (VOCs)- Volatile organic compounds are compounds that evaporate easily into the air. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, pharmaceuticals, and refrigerants. VOCs typically are industrial solvents.

Feasibility Study: Analysis of the practicability of a proposal; e.g., a description and analysis of potential cleanup alternatives for a site such as one on the National Priorities List. The feasibility study usually recommends selection of a cost-effective alternative.

along the canal. EPA also found PAHs and metals in the CSOs that discharge into the canal. Contaminated sites adjacent to the canal and discharges from outfalls are ongoing sources of contamination to the canal.

HUMAN HEALTH AND ECOLOGICAL RISK

The human health **risk assessment** has found that people are at risk from exposure to PCBs if they consume fish or crab caught in the canal. In addition, persons who come into regular contact with water or sediment from the canal could be at risk from exposure to PAHs. There are a host of serious health effects associated with PCBs and PAHs. PCBs are a suspected human carcinogen, a substance capable of causing cancer, and also cause neurological effects. Some PAHs are reasonably expected to be carcinogens as well.

As part of the RI, EPA also conducted air monitoring, both at canoe and street level. While the air sampling results indicated the presence of **volatile organic compounds (VOCs)** and PAHs, the levels were typical of what you find in urban environments.

The ecological risk assessment revealed that organisms living in the sediment are at risk because of contamination in the sediment. Ducks are also at risk to exposure from PAHs in the sediment, while heron may be at risk from exposure by eating contaminated fish.

NEXT STEP, THE FEASIBILITY STUDY

Based on the results of the RI and risk assessments, EPA will work on the **feasibility study (FS)**. The FS will identify and evaluate cleanup alternatives to address contamination at the site. The FS is expected to be completed in late 2011. The proposed plan, which assesses many viable options to address contamination in the canal, and also includes EPA's recommended cleanup alternative will be made available to the community for public comment in 2012. It is anticipated that EPA will select a remedy to address the contamination in the Canal in 2012.

PUBLIC MEETING

A public meeting to discuss the RI and risk assessments will be held at PS 32 (317 Hoyt Street) on Wednesday, February 23, 2011 from 6:30 pm – 9:00 pm.