

# Community Fact Sheet

## Great Kills Park Site

National Park Service  
U.S. Department of the Interior

Gateway National Recreation Area

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### Site History

Great Kills Park comprises approximately 523 acres in the vicinity of the Raritan and Lower Bays of Great Kills Harbor, in the borough of Staten Island. Between 1934 to 1951, City of New York Department of Parks administered the Marine Park Project to develop the Great Kills Harbor as a shorefront recreation area. From 1944-1948 the City used waste material to fill in the wetlands and increase the usable land footprint which was common practice at the time. The City operated Great Kills as a City park until it was transferred to the National Park Service in 1972 and became part of the Staten Island Unit of Gateway National Recreation Area.



Aerial image of Great Kills Park from 1949 after filling operations ended.

Elevated levels of radioactivity was first discovered in Great Kills Park in 2005 during an aerial survey conducted by New York City Police Department to develop a baseline radiological map of the city. Based on investigations conducted by NPS to date, NPS believes that some of the fill material used to create land for a portion of the park contained radium. The materials found include debris and other friable material and certain discarded medical devices which were relatively common at the time. From 2005-2007, additional areas of elevated radioactivity, subsequently determined to be radium-226, were found within Great Kills Park.

In response to these discoveries, the National Park Service, under the authority of the Comprehensive Environmental, Response, Compensation, and Liability Act ("CERCLA"), took actions to determine the extent of radiological contamination and identify and implement short term measures to protect public health and the environment until a permanent remedy is selected and implemented. Between 2007 and 2009, the National Park Service completed a Preliminary Assessment, excavated and removed seven locations of radioactive contamination and closed the Site to the public to prevent exposure to elevated levels of radioactivity.

### What is Radium?

The radioactive contamination present at Great Kills Park has been identified as radium-226. Radium was first discovered in the early 1900's. The health effects of radium were not understood and it quickly became a very popular product used in hundreds of consumer products including hair tonic, toothpaste, and glow in the dark watch and clock faces. It was widely used in luminescent paints through World War II, because the soft glow of radium's luminescence made aircraft dials, gauges and other instruments visible to their operators at night. Radium was also an early radiation source for cancer treatment. Small radium metal pieces were implanted in tumors to kill cancerous cells. Most of radium's original uses have been halted for health and safety reasons and radium has been replaced with safer alternatives.

## Potential Safety and Health Risks

Radiation is energy given off by atoms and is present in nature all around us. Everyone is exposed to low levels of radiation every day from naturally occurring radioactive elements, from cosmic (sun) rays, and man-made exposures like medical x-rays.

On average we receive a dose of about 620 mrem per year from radioactive materials naturally present in the environment as well as medical procedures and the use of consumer products. Mrem stands for millirem or 1/1,000 of a rem, which is the unit that measures what effect radiation has on the body. Here are some other doses for comparison:

chest x-ray—10 mrem (each)

dental x-ray—1.5 mrem (each)

food and water—40 mrem (annual)

The radioactivity measured on contact at Great Kills Park ranges from 0.01 mrem /hr to 20 mrem/hr.

Within a few feet of the source of contamination the gamma radiation levels found at the site drop off to normal background. Air monitoring in the park has not identified any elevated levels of radioactivity in the air. The National Park Service has installed fencing to restrict access to the contamination to prevent contact and signage to inform visitors of the closed areas. The established boundaries put visitor safety first, our highest priority.



Contractors have completed a survey of over 11.5 million square feet to identify radioactive contamination within Great Kills Park.

## Current Status

Contractors are currently working at Great Kills Park to complete a radiological survey and to remove or continue to restrict access to areas with elevated radioactivity. By the summer of 2014, the National Park Service will have installed over 20,000 feet of perimeter fence, cut back vegetation and performed a gamma survey over 265 acres (or over 11.5 million square feet), and excavated approximately 40 locations of radioactive contamination which pose the greatest potential health risk.

Through the course of implementing these response actions, National Park Service has identified more than 200 locations of elevated radioactivity spread over the 265 acre waste filled area of the park that require follow up investigation.

Although the current actions will protect public health and the environment for the short term, NPS has determined it is appropriate to initiate a more long term and comprehensive investigation to characterize the extent of the remaining contamination.

The CERCLA process establishes rigorous requirements by which the site is investigated, cleanup standards are identified, and alternatives are evaluated in order to ensure the permanent remedy selected will be fully protective of human health and the environment.

# Community Involvement

Community Involvement is a very important part of the CERCLA process. In 2011, a public information session was held and community input helped shape the development of a Community Involvement Plan (CIP) for the Great Kills Park Site. The CIP and other documents that will be considered or relied upon in the selection of a response action for this site are part of the site's Administrative Record file. The Administrative Record is available for public review at [New York Public Library, Great Kills Branch, 56 Giffords Lane, Staten Island.](#)

As the National Park Service implements the CERCLA process, there will be many other opportunities for the public to be involved in the process. To stay informed you can:

- go to the **Community Involvement** section of the project webpage and sign up to receive project updates via email ([www.nps.gov/gate/parkmgmt/greatkillscommunityinvolvement.htm](http://www.nps.gov/gate/parkmgmt/greatkillscommunityinvolvement.htm)).
- email questions any time to [greatkillscleanup@nps.gov](mailto:greatkillscleanup@nps.gov)
- or call our **Public Affairs Office at 718-354-4606**
- go to the **Environmental Investigation** section of the project webpage to learn more about the project and download copies of key documents ([www.nps.gov/gate/parkmgmt/environmental-investigations.htm](http://www.nps.gov/gate/parkmgmt/environmental-investigations.htm))

