

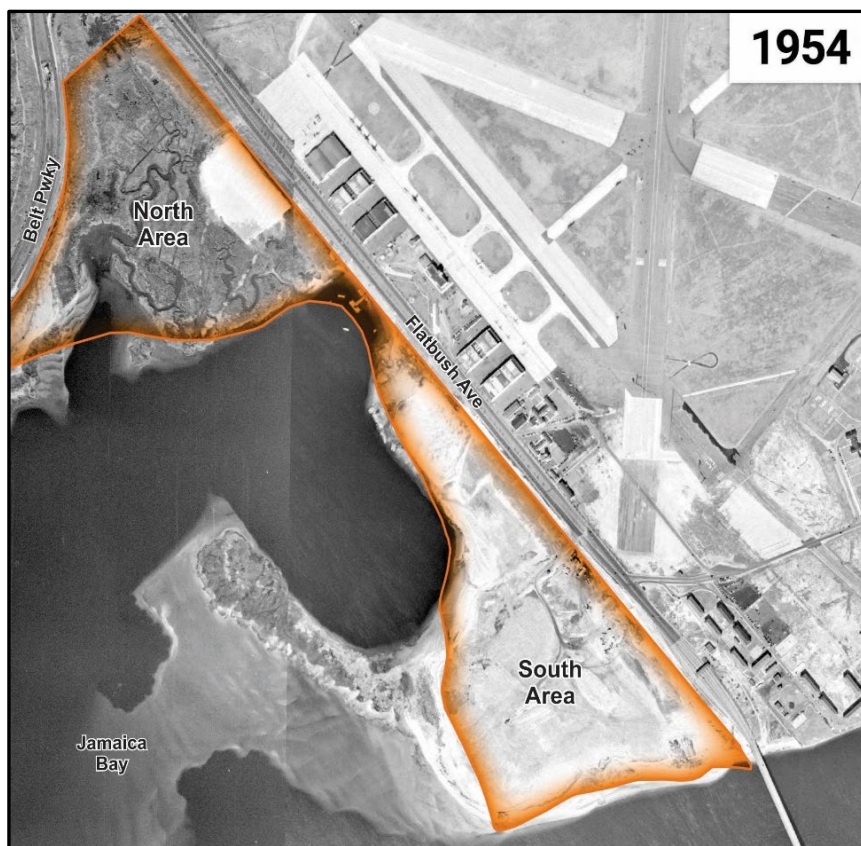


### SITE BACKGROUND

The Dead Horse Bay Site (the Site) is a 178-acre area in Brooklyn, New York that is part of the Jamaica Bay Unit of Gateway National Recreation Area. The Site is bordered by Flatbush Avenue to the northeast, the Belt Parkway to the northwest, and the Jamaica Bay to the south and southwest. The northern area of the Site is a combination of developed and undeveloped parkland with multiple leaseholders/concessioners, including the Aviator Golf Center and Moonbeam Gateway Marina. The southern area of the Site is undeveloped parkland with several former trails that have not been maintained since the Site was closed in 2019. The shoreline along the southern area of the Site is known as “Glass Bottle Beach” because it is covered with glass and other debris associated with historical landfilling operations that were performed at the Site.

From the 1850s to the 1930s, due to its distance from the developed areas of New York City, the area formerly known as Barren Island was the location of a variety of nuisance industries that included waste management, processing of animal carcasses and fish, and the production of fertilizers. Floyd Bennett Field – New York City’s first municipal airport – was constructed from 1928 to 1931 to the north of the industrialized areas of Barren Island on a former salt marsh that was built up using hydraulic fill from dredging operations that created shipping channels in the Jamaica Bay.

In 1934, New York City began to purchase a large tract of property that would eventually become Marine Park Brooklyn, which included present day Dead Horse Bay. New York City split the areas of former Barren Island along Flatbush Avenue. The area southwest of Flatbush Avenue, which includes the Site, would eventually be built up through landfilling operations that were performed to create a shorefront recreation area known as Marine Park Brooklyn. The first landfilling activities associated with Marine Park Brooklyn started in 1940, when the New York City Department of Parks filled wetland areas to increase the useable land, which was a common land reclamation practice at the time. By 1966, approximately 1,221 acres of land had been created through landfilling in support of the Marine Park Brooklyn project. Based on a review of historical aerial photographs, NPS estimates that landfilling within the 178-acre Site boundary was performed from the early 1950s to the mid-1960s. Upon completion of landfilling operations, New York City amended the surface of the Site using a combination of dredged sand mixed with sewage sludge to create “artificial topsoil” to enhance vegetative growth. Dead Horse Bay was subsequently transferred to the United States to be managed by NPS in 1972. While the Site is currently closed to the public, NPS continues to operate Dead Horse Bay as part of the Jamaica Bay Unit of Gateway National Recreation Area.



**Historical Aerial Photo Showing Landfilling Activities at the Site**



## ENVIRONMENTAL INVESTIGATIONS

Investigations were conducted at the Site by the United States Army Corps of Engineers (USACE) as part of planning for a possible habitat restoration project. During these investigations, chemical contaminants were identified in Site soils including polycyclic aromatic hydrocarbons, pesticides, polychlorinated biphenyls, and various metals.

Based on the investigations conducted by USACE and the waste filling history at the Site, NPS initiated preliminary investigations in 2019 under the authority of the Comprehensive Environmental, Response, Compensation and Liability Act (CERCLA) (commonly known as the Superfund). Due to similarities of the historical development with other Gateway sites, Great Kills Park and Spring Creek Park (all three were developed, in part, through landfilling during similar timeframes), and as a prudently conservative public safety measure to evaluate the potential presence of radiological contamination on or near trails and beach areas, NPS conducted gamma walkover surveys over portions of the Site.

The surveys identified several locations where gamma radiation readings exceeded background levels. Man-made radioluminescence articles (deck markers – see photo insert) containing radium were identified and retrieved for off-site disposal at two locations. Analytical results from soils surrounding each of the deck markers indicated that the deck markers had leaked, resulting in radionuclide contamination of the surrounding soils at a depth of approximately two feet at both locations.

Other localized areas of elevated levels of radioactivity were identified during survey work conducted in 2021, many of which were found to be due to the black monazite sands located along the shoreline and on the Site. Monazite sands contain detectable levels of naturally occurring radioactive materials that are not considered contaminants of concern. In 2023 an additional 40 acres of the Site were surveyed to support site management decisions and inform further investigation planning. The results indicated that elevated surface readings were prevalent in the southern portion of the Site and that radium-226 is associated with nearly all the representative locations investigated.



**Deck Marker Containing Radium  
Removed from the Site in 2019.**

## RADIUM HISTORY AND POTENTIAL EXPOSURE AT DEAD HORSE BAY

The radioactive contaminants that have been identified at the Site are radium, thorium, uranium and their decay progeny. The most prevalent being radium. Radium is a naturally occurring element that is radioactive. It is constantly formed by the decay of two elements, uranium and thorium, which exist naturally in rock, soil. Small quantities of naturally occurring radium are also present in building materials such as granite, cement, and clay brick. In the United States we are exposed to many sources of radiation every day from naturally occurring radioactive elements in our bodies and the environment from cosmic (sun) rays, as well as from man-made exposures, primarily from medical diagnosis (like x-rays) and treatment.

Historically, radium was erroneously used to treat rheumatism and mental disorders, and as a general tonic. It was widely used in luminescent paint for watches, aircraft switches, clocks, instrument dials, glow in the dark buttons, and many other products. The danger of radium was exposed in the 1920s by the Radium Girls – young female factory





workers who contracted radiation poisoning from painting radium watch dials with self-luminous paint. Ensuing litigation, covered broadly by the media, brought the danger of radium to the forefront, spurring both the field of health physics and the labor rights movement. However, it was not until the 1970s that radium was no longer used in the manufacture of watches and clock dials.

The greatest potential risk from radiological Site contaminants results from coming into direct contact with a man-made radiological article and the ingestion of contaminated soil. Exposure, and ultimately risk, from an actual man-made radioactive article depends on the amount of time and how close you are to it. Both man-made articles and contaminated soil are known to exist at the surface at the Site.

### NEXT STEPS

Due to potential exposure to radiological contamination in the area, the entire Dead Horse Bay Site, except for the concession/lease operated areas, is closed to visitors while NPS conducts investigations under CERCLA. NPS is in the early stages of a Site-wide Remedial Investigation/ Feasibility Study (RI/FS) to fully characterize Site contamination; evaluate potential human health and ecological risks associated with exposure to hazardous substances that may be present; and evaluate Site-wide cleanup alternatives to address identified risks.

RI field investigations are anticipated to take place in 2025. The RI is a comprehensive investigation often conducted over multiple phases that will include sampling of environmental media (e.g., soil, sediment, groundwater) to fully characterize Site contamination. The results of the RI will provide the foundation for how NPS will evaluate cleanup alternatives in the Feasibility Study (FS) to ensure Site conditions are protective of human health and the environment.





and allow for the continued use of the Dead Horse Bay area by the community once the remediation is completed. The results of the RI/FS will be presented in a combined RI/FS Report. NPS will then develop a Proposed Plan for public review and comment, which will outline the preferred cleanup option identified for the Site. Public feedback will be sought and considered prior to finalization of the Proposed Plan, which will be documented in the Site Record of Decision (ROD). Once the ROD is finalized, NPS will prepare the Remedial Design and commence remedial action in all areas of Dead Horse Bay determined to require cleanup.

## COMMUNITY INVOLVEMENT

Community involvement is an important part of the NPS CERCLA process. NPS has established an information repository, which houses a copy of the Dead Horse Bay Site Administrative Record File. CERCLA administrative record files consist of those documents that form the basis for the selection of the response at the Site. The Dead Horse Bay Site Administrative Record File currently includes documents associated with Site historical information, environmental investigations, and community relations materials. The Site Administrative Record File will be updated periodically as new information and reports are finalized. The public can view the Site Administrative Record File and make copies of documents at the following information repository locations.

### Dead Horse Bay Site Information Repository

Brooklyn Public Library – Mill Basin Branch	Floyd Bennett Field – Ryan Visitor Center
2385 Ralph Avenue Brooklyn, NY 11234  Phone: 718.241.3973 Website for Hours of Operation: <a href="#">Mill Basin Library   Brooklyn Public Library (bklynlibrary.org)</a>	1 Floyd Bennett Field Brooklyn, NY 11234  Phone: 718.338.3799 Hours of Operation: Saturday & Sunday, 12-4 PM

## FOR MORE INFORMATION

If you have questions concerning information contained in this Community Update and/or would like to sign up to receive project updates via email, please contact the NPS Public Affairs Office at 917.282.9393 or email [DeadHorseBayCleanup@nps.gov](mailto:DeadHorseBayCleanup@nps.gov). Additional information and project updates are available through the Park’s website at Dead Horse Bay Environmental Cleanup Project - Gateway National Recreation Area (U.S. National Park Service) ([nps.gov](https://nps.gov)) or by scanning this QR code:

