

Vieques and Culebra Islands: Status of Environmental Cleanup and Related Issues

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Map of Vieques in Relation to Culebra and Puerto Rico



Residential Populations

Vieques Island

Approximately 9,300 residents

Culebra Island

Approximately 1,700 residents

Vieques Island

Site Chronology

Navy training range established in the 1940s.

Residents relocated to central portion of the island.

Navy weapons storage and disposal operations in western Vieques ceased in April 2001.

Western lands transferred to Department of the Interior, Puerto Rico Conservation Trust, and the Municipality of Vieques for conservation.

Navy bombing exercises in eastern Vieques ceased in April 2003.

Eastern lands transferred to Department of the Interior, and remain in federal ownership as a National Wildlife Refuge and Wilderness Area.

National Priorities List (NPL) site proposal in August 2004.

Final site listing on the NPL in February 2005.

Culebra Island

Site Chronology

Navy assumed control of Culebra in 1901.

Residents relocated to various areas of the island.

Navy lands served as a live-fire training range.

Later combined with Vieques as part of a Navy training complex.

Navy operations ceased on Culebra in 1975.

Some of the land transferred to Department of the Interior, and remains in federal ownership as a National Wildlife Refuge.

Remaining land transferred to non-federal entities for conservation and public recreation.

Included in Vieques NPL site proposal in August 2004.

No final listing decision to date due to legal issues and separate agreement between the Army and the Commonwealth of Puerto Rico.

Potential Safety, Health, and Environmental Risks

Potential risks on Vieques and Culebra are similar.

Potential safety risks from unexploded ordnance on land in areas where live-fire training occurred, and off-shore where munitions may have landed.

Potential health risks from possible exposure to contaminants leached from munitions into soil and groundwater, emitted into the air, and accumulated in fish and shellfish consumed as part of the local diet.

Long-standing questions regarding possible links between exposure to contaminants and numerous health effects.

Specific questions regarding higher cancer and mortality rates, and heart abnormalities, among the local population compared to the main island of Puerto Rico.

Findings of Federal Studies

Agency for Toxic Substances and Disease Registry (ATSDR)

Conducted public health assessments for Vieques. Examined potential human exposure to contaminants through the air, contact with soil, drinking water supplies and groundwater, and consumption of fish and shellfish.

Released findings in 2001 and 2003, concluding there was “no apparent health hazard,” based on potential exposure.

National Oceanic and Atmospheric Administration (NOAA)

Conducting study of the marine environment surrounding Vieques in support of the cleanup investigation.

So far, completed land and fiddler crab study, detecting certain contaminants, but no explosive compounds. Based on NOAA’s data, the ATSDR issued a public health consultation in 2006 concluding that contaminant levels in crabs did not pose a health risk from consumption.

Cleanup Process

Cleanup involves numerous steps.

- **Site Assessment**
- Remedial Investigation/Feasibility Study (RI/FS)
- Remedial Selection and Record of Decision
- Remedial Design
- Remedial Construction
- Operation and Maintenance
- Long-Term Monitoring

This process can last several years, even a decade or more in some cases.

Cleanup is complete at relatively few military sites on the NPL.

As a result, the vast majority remain listed.

Vieques Island

Status of Cleanup

Navy is administering and funding the cleanup with oversight from EPA and the Puerto Rico Environmental Quality Board.

Site investigations are underway to determine degree of contamination, assess potential risks, and identify remedial alternatives.

Interim “removal” actions to “clear” unexploded ordnance also are underway in certain areas to address safety risks.

Clearance of unexploded ordnance in eastern Vieques is underway in the Live Impact Area of the bombing range and the Eastern Conservation Area, including beaches in these areas.

Clearance of unexploded ordnance in western Vieques is underway in the “open burn/open detonation” disposal area, along proposed roadways, trails, and buffer areas, and adjacent beaches.

Restoration Advisory Board holds quarterly meetings to inform residents about the status of cleanup and to address public concerns.

Vieques Island

Navy Cleanup Cost Estimates

Cumulative past costs through FY2005 = \$31.7 million

Estimated future costs from FY2006 to Completion = \$130.5 million

Date of completion of cleanup not yet estimated, as contamination and potential risks are not fully understood, and accordingly, actions to address potential risks have yet to be decided.

Future costs are preliminary estimates, and are subject to change as more information becomes available.

Actual costs could differ depending on the findings of site investigations, and specific cleanup actions to which the Navy, Department of the Interior, EPA, and the Commonwealth of Puerto Rico agree.

Availability of funding to pay cleanup costs will depend on annual appropriations by Congress.

Vieques Island

Key Issues

Challenges and limitations in clearing unexploded ordnance on land, particularly where the vegetation is dense such as the bombing range, and in underwater areas at varying depths where munitions may have landed.

Safety and cost benefits of clearing unexploded ordnance on land using “Blow in Place” practices (i.e., detonation in place) to address safety risks.

Public concerns about possible introduction of new health risks from air emissions and contamination of soil, and groundwater over time, resulting from Blow in Place practices.

Method and criteria for investigating natural background levels in the soil in eastern Vieques, which will be used as a baseline to determine contamination caused by Navy activities.

Public perception that the pace of cleanup is too slow to address immediate safety, health, and environmental risks.

Culebra Island

Status of Cleanup

Army is administering and funding the cleanup of Culebra with oversight from the Puerto Rico Environmental Quality Board.

Army is conducting the cleanup, rather than the Navy, because the Army is responsible for all Formerly Used Defense Sites (FUDS) decommissioned prior to 1988, such as Culebra, regardless of which Service administered the site when it was operational.

Although the Navy ceased operations on Culebra in 1975, relatively little cleanup has been done, focusing on the surface clearance of unexploded ordnance in certain areas to address safety risks, with some remediation of hazardous substances in certain areas.

Since the NPL proposal in 2004, a more comprehensive cleanup has been planned, including additional surface clearance. Army also completed aerial and underwater surveys to identify areas for further investigation, and surveys of environmental and cultural resources in potentially contaminated areas.

Culebra Island

Army Cleanup Cost Estimates

Cumulative past costs through FY2005 = \$8.1 million

Estimated future costs from FY2006 to Completion = \$3.1 million

Similar to Vieques, date of completion of cleanup is not yet estimated, as much remains unknown about the degree of contamination and the actions that will be necessary to address potential risks.

As with Vieques, future costs are preliminary estimates, and are subject to change as more information becomes available.

Actual costs could differ depending on the findings of site investigations, and specific cleanup actions to which the Army and the Commonwealth of Puerto Rico agree.

Once again, availability of funding to pay cleanup costs will depend on annual appropriations by Congress.

Culebra Island

Key Issues

Culebra and Vieques share many of the same cleanup issues, such as challenges and limitations in clearing unexploded ordnance on land and off-shore, and the controversial practice of detonating unexploded ordnance in place to address safety risks. There also are significant distinctions.

Federal studies of potential health and environmental risks have focused on Vieques. Consequently, less information is available on such risks on Culebra.

Public perceptions of the slow pace of cleanup also are more acute than on Vieques, considering that Navy operations ceased over 30 years ago on Culebra with relatively limited cleanup thus far.

Cleanup of Culebra is further complicated by certain provisions in federal statute that the Army has interpreted as restricting cleanup of the former bombardment areas on Culebra at the expense of the federal government.

Information Resources

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On-line Resources:

U.S. Navy Vieques Web Site:
<http://public.lantops-ir.org/sites/public/vieques>

EPA Vieques Web Site:
<http://www.epa.gov/region02/vieques>

ATSDR Vieques Web Site:
<http://www.atsdr.cdc.gov/sites/vieques/vieques.html>

NOAA Office of Response and Restoration Web Site:
<http://response.restoration.noaa.gov>