

GAO@100 Highlights

Highlights of [GAO-21-268](#), a report to congressional committees

Why GAO Did This Study

For several decades, DOD used the islands of Vieques and Culebra, Puerto Rico, for training sites that left extensive amounts of munitions, hazardous substances, and other contaminants on the islands and in their surrounding waters. DOD began cleanup efforts on Culebra in the early 1990s and on Vieques in the mid-2000s. Both efforts are conducted pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. On Vieques, the U.S. Navy funds and leads the cleanup efforts, and the Environmental Protection Agency (EPA) has oversight responsibilities. On Culebra, the Corps funds and leads the cleanup efforts, and the Commonwealth of Puerto Rico has oversight responsibilities.

The conference report accompanying the National Defense Authorization Act for Fiscal Year 2020 (H.R. Rep. No. 116-333) contained a provision for GAO to study the status of the federal cleanup on Vieques and Culebra. This review (1) discusses the status and cost of cleanup efforts, (2) identifies challenges to the cleanup efforts and examines how DOD is addressing them, and (3) describes the cleanup technologies DOD is using at these sites and how federal agencies assess the feasibility of innovative technologies. GAO reviewed agency data, documentation, and guidance; and interviewed DOD, EPA, and other federal officials, Commonwealth officials, academic researchers, and residents of both islands.

View [GAO-21-268](#). For more information, contact Alfredo Gómez at (202) 512-3841 or gomezj@gao.gov or Elizabeth A. Field at (202) 512-2775 or fielde1@gao.gov.

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DEFENSE CLEANUP

Efforts at Former Military Sites on Vieques and Culebra, Puerto Rico, Are Expected to Continue through 2032

What GAO Found

The Department of Defense (DOD) continues to make progress on cleanup efforts at the former military sites in Vieques and Culebra, Puerto Rico, but substantial work remains. The U.S. Navy and the U.S. Army Corps of Engineers (Corps) estimate that cleanup efforts will continue through fiscal year 2032. The Navy has completed cleanup on nearly all sites contaminated with hazardous materials on Vieques, but substantial work remains for the Navy and the Corps on both islands at sites with munitions, especially underwater sites where unexploded munitions are buried in the sea floor. The costs of prior cleanup, combined with DOD's reported estimates for planned cleanup on both islands, through fiscal year 2032, total nearly \$800 million.

DOD faces a number of challenges in its cleanup efforts, according to agency documentation and interviews with Navy, Corps, and other federal officials. Challenges include logistics, the islands' topography and environment, and the safety concerns around handling unexploded munitions. The Navy also faces challenges on Vieques with community distrust of the military handling cleanup efforts. DOD is taking steps to address these challenges, including establishing procedures and protocols, and mechanisms for community input. For example, to address environmental challenges, the agencies established a standard operating procedure to protect endangered and threatened species and their habitats.

The Navy and Corps use a variety of technologies in their cleanup efforts. For example, the agencies use technologies, such as advanced geophysical classification, to detect munitions on land and the towed magnetometer array to detect munitions underwater. The agencies assess the feasibility of innovative cleanup technologies through active participation in DOD environmental research programs and military-specific technology transfer processes.

Example of Two Technologies Used to Detect Unexploded Munitions on Land and Underwater as Part of Cleanup Efforts on Vieques and Culebra, Puerto Rico



The image on the left is of Advanced Geophysical Classification technology on Culebra, which is used to identify properties, such as size or depth, of a buried metal object. The other image is of a towed magnetometer array on Vieques, Puerto Rico, used to identify magnetic anomalies caused by the presence of iron objects lying on or beneath the seafloor.

Sources: U.S. Army Corps of Engineers and U.S. Navy. | [GAO-21-268](#)