



# FORMERLY USED DEFENSE SITE (FUDS) FORMER WAIKOLOA MANEUVER AREA, SOUTH KOHALA, HAWAII

U.S. ARMY CORPS OF ENGINEERS

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## Background

The Department of Defense established the Formerly Used Defense Site (FUDS) under the Defense Environmental Restoration Program (DERP) in 1986 to address munitions and explosives of concern (MEC) located on closed or transferred military training areas. Munitions that did not properly function are considered a safety hazard that present a serious danger to human health.



The FUDS property formerly known as the Waikoloa Maneuver Area (WMA), demarcated in the red crosshatch below, is located on the western side of the Big Island of Hawaii. The U.S. Marine Corps, through a verbal agreement with Richard Smart of Parker Ranch, acquired over 220,000 acres in South Kohala in December 1943. The 2<sup>nd</sup> and 5<sup>th</sup> Marine Divisions used portions as an artillery firing range on which live ammunition and other explosives were employed, with the remaining acreage utilized for troop maneuvers and the largest encampment (i.e., Camp Tarawa) on the island of Hawaii. By September 1946, the U.S. Marine Corps returned all of the property to Parker Ranch.

The military has conducted multiple munitions clearance efforts on the property; in 1945/1946 just prior to the departure of the 5<sup>th</sup> Marine Division and in 1954 following an accidental detonation of a shell killing two civilians and seriously injuring three others. The 1954 effort detected as many as 400 MEC items including hand grenades, 60 and 81mm mortars, 75mm shells, 105 and 155mm shell fuzes, 37mm anti-tank cannon shells, and 4.2-inch mortars

## Previous Investigations

A 1993 Inventory Project Report conducted by the U.S. Army Corps of Engineers (USACE) in confirmed that the property was used by the Department of Defense and qualifies as a FUDS.

As part of the FUDS Program, a Phase I Engineering Evaluation/Cost Analysis, (EE/CA) was conducted from 1997 to 1999 at the request of Parker Ranch on small, restricted areas west of the Waimea-Kohala Airport. The goals of the EE/CA were to identify the extent of the hazard, to identify the objectives of the removal action, and to analyze various alternatives. Results of the Phase I EE/CA indicated that the problem was larger than anticipated and resulted in the second EE/CA.

The Phase II EE/CA was conducted from 1999 to 2002 and covered 113,000 acres. The EE/CA completed risk evaluations for the entire area and the areas with the highest risks were Waikoloa and Waimea. The Phase II EE/CA recommended institutional controls, pre-coordinated construction support, and surface and subsurface clearance of MEC.

During the Phase III EE/CA conducted from 2003 to 2005, USACE investigated the presence and extent of munitions and explosives on the property along the perimeter of the WMA. As a result of the Phase III EE/CA, the boundary of the former WMA was expanded to include property makai (west) of Queen Kaahumanu Highway, mauka (east) of Highway 190 (Belt Road) and north of Kawaihae Road.

From 2009 through the present, focused Remedial Investigation/Feasibility Studies (RI/FS) have been conducted at individual munitions response sites within WMA to identify the nature and extent of MEC, evaluate and propose alternatives, and fund a selected remedy. The RI/FS process utilizes extensive historical record review, transect/grid sampling, statistical analysis, and review of current clean-up technologies beyond the level of detail in previous EE/CA investigations. RI/FS projects include a Proposed Plan (PP) process with a public meeting and comment period to receive input on a preferred remedial action alternative.

## Safety Training and Briefs

MEC safety training and briefs are provided by USACE for private companies and government agencies. The training includes information about the Waikoloa FUDS, awareness training, and process procedures if you encounter suspected MEC. Safety is USACE's number one priority. Please contact USACE for more information on MEC safety training.

## Removal Action

Removal Actions (RA) are the cleanup or removal of MEC from the surface and subsurface following EE/CA and RI/FS investigations. The removal process involves site boundary surveys, establishment of work grids, metal detection using handheld or digital mapping instruments, excavation of contacts, and disposal of MEC or related debris.

Since 2002, more than 100 different types of munitions have been found during removals at the WMA to include mortars, projectiles, hand grenades, rockets, land mines, and Japanese ordnances. To date, removal and disposal of over 2,700 munitions and 120 tons of munition debris has been performed across 29,000 acres. The current removal action continues with focus on high risk areas that are easily accessible to the public or are slated for future development.



## Cultural and Natural Resources

During all activities at WMA, an archaeologist and biologist was or will be on site with the work teams to identify and monitor historic properties or sensitive natural resources. These professionals identify cultural sites, plants, and animals potentially affected by the work, and seek ways to avoid, minimize, or mitigate any adverse effects.

## Public Outreach and Involvement

A Restoration Advisory Board (RAB) was established in 1999 to act as a focal point for the exchange of information between USACE and the local community regarding environmental restoration activities at the former Waikoloa Maneuver Area. RAB informational meetings are held twice a year, and provide the community with updates, progress reports, and upcoming projects.

USACE regularly attends community events throughout the South Kohala area, notifying attendees of the potential presence of MEC in their residential and recreational areas. School assemblies and public outreach are conducted in the Waikoloa and Waimea areas reinforcing the 3Rs of Explosives Safety; Recognize, Retreat, and Report. Outreach includes the distribution of 3Rs branded brochures, coloring books, organizers, tee-shirts and water bottles.

MEC continues to be discovered as lands in the former Waikoloa Maneuver Area are investigated. While encountering old MEC is not common, this ordnance retains its explosive potential over time, and the public should be wary of any type of old metal objects you may find. Some MEC items are more sensitive, and detonation can occur with the slightest touch. Always remember and practice the 3Rs of Explosives Safety:



**Recognize** — Recognizing when you may have encountered a munition is key to reducing the risk of injury or death. If you encounter or suspect you may have encountered a munition, consider it extremely dangerous. Remember, munitions are sometimes hard to identify.

**Retreat** — If you encounter or suspect you may have encountered a munition, do not touch, move or disturb it, but immediately and carefully - do not run - leave the area following the same path on which you entered. If you can, mark the general area, not the munition, in some manner (e.g., with a hat, piece of cloth, or tying a piece of plastic to a tree branch).

**Report** —When you think you may have encountered a munition, notify your local law enforcement - call 911.

## DON'T FORGET

Munitions are dangerous and may not be easily recognizable. Never touch, move or disturb a munition or suspect munition.

## REMEMBER THE 3Rs (3Rs.mil)

If you have any further questions, please contact:  
Project Manager, Former Waikoloa Maneuver Area  
U.S. Army Corps of Engineers- Honolulu District  
808-835-4305

or Visit our website at:  
[http://www.poh.usace.army.mil/  
Missions/Environmental/FUDS.aspx](http://www.poh.usace.army.mil/Missions/Environmental/FUDS.aspx)

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