



FINAL

# Operational Range Assessment Program Phase I Qualitative Assessment Report Ukumehame Firing Range, Maui, Hawai'i

U.S. Army Operational Range Assessment Program  
Qualitative Operational Range Assessments

Prepared for:

U.S. Army Environmental Command and  
U.S. Army Corps of Engineers Baltimore District



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Final Operational Range Assessment Program Phase I Qualitative Assessment Range Assessment Reports will be released beginning in March 2008 per the Direction of Army Headquarters. The cover page of this Report reflects the official finalization date. The date on subsequent pages/figures reflects the date upon which this document's conclusions are based.



## **EXECUTIVE SUMMARY**

The United States (U.S.) Army is conducting qualitative assessments at operational ranges to meet the requirements of Department of Defense policy and to support the U.S. Army Sustainable Range Program. The operational range qualitative assessment (hereinafter referred to as Phase I Assessment) is the first phase of the U.S. Army Operational Range Assessment Program (ORAP). This Phase I Assessment evaluates the operational range area at Ukumehame Firing Range to assess whether further investigation is needed to determine if potential munitions constituents of concern (MCOC) are or could be migrating off-range at levels that may pose an unacceptable risk to human health or the environment. In conducting the Phase I Assessment, MCOC sources, potential off-range migration pathways, and potential off-range human and ecological receptors are evaluated as appropriate.

Ukumehame Firing Range encompasses both the Hawai'i Army National Guard (HIARNG) and county of Maui small arms firing ranges. The county range facility is located immediately adjacent to the eastern boundary of the HIARNG range boundary, but is managed and operated as a separate facility. For the purposes of this report, the term "Ukumehame Firing Range" is used in reference to the HIARNG facility only. This assessment does not address the approximately 44-acre Maui County firing range facility, which is comprised of two additional ranges (clay target and law enforcement range) and is not under HIARNG control.

Ukumehame Firing Range, also referred to as Ukumehame Weekend Training Site, is comprised of 39.36 acres of land located approximately three miles southeast of the town of Olowalu in Maui, Hawai'i. Based on the available Army Range Inventory Database-Geodatabase (ARID-GEO) data (dated 31 December 2005), Ukumehame Firing Range consists of three operational range areas utilized by HIARNG: a training and maneuver area for light forces and two small arms firing ranges. The 2005 ARID-GEO considers the training and maneuver area to encompass the entire 39.36 acres of the range complex, overlapping both small arms ranges in their entirety. Personnel interviews with HIARNG training and operations points-of-contact, however, indicate that the training and maneuver area only overlaps a small region of the southern portion of the known-distance rifle range. Therefore, for the purpose of this assessment, the acreage of the training and maneuver area is considered to be 25.47 acres (the difference between the total acreage of both small arms ranges and the total acreage of the range complex).

Built in 1990, Ukumehame Firing Range has been utilized by the HIARNG for small arms (known-distance rifle and pistol) training and qualification and for occasional training and maneuver exercises. The facility is currently utilized approximately 10 to 20 times per year by HIARNG infantry units. The rifle range has been inactive since the late 1990s (Personnel Interview, September 2006).

The MCOC sources identified at Ukumehame Firing Range consist of the firing points and impact berms at the two small arms firing ranges. Only small caliber munitions have been used on these ranges. In general, MCOC from primary source areas potentially impact the following source media: (1) soil (e.g., impact berms, impact areas surrounding targets, burn pits) and (2) surface water / sediment (e.g., direct deposition into streams and wetlands). While current training has the potential to impact the soil at firing points and impact areas, no migration pathways have been identified for the MCOC source to migrate down gradient of Ukumehame Firing Range.

The three operational ranges at Ukumehame Firing Range are categorized as Unlikely.

**Unlikely – Five-Year Review**

The three ranges at Ukumehame Firing Range are categorized as Unlikely, totaling 39.36 acres. These ranges consist of two live-fire small arms ranges and a non-live-fire training and maneuver area for light forces. Ranges where, based upon a review of readily available information, there is sufficient evidence to show that there are no known releases or source-receptor interactions off-range that could present an unacceptable risk to human health or the environment are categorized as Unlikely. Ranges categorized as Unlikely are required to be re-evaluated at least every five years. Re-evaluation may occur sooner if significant changes (e.g., change in range operations or site conditions, regulatory changes) occur that affect determinations made during this Phase I Assessment.

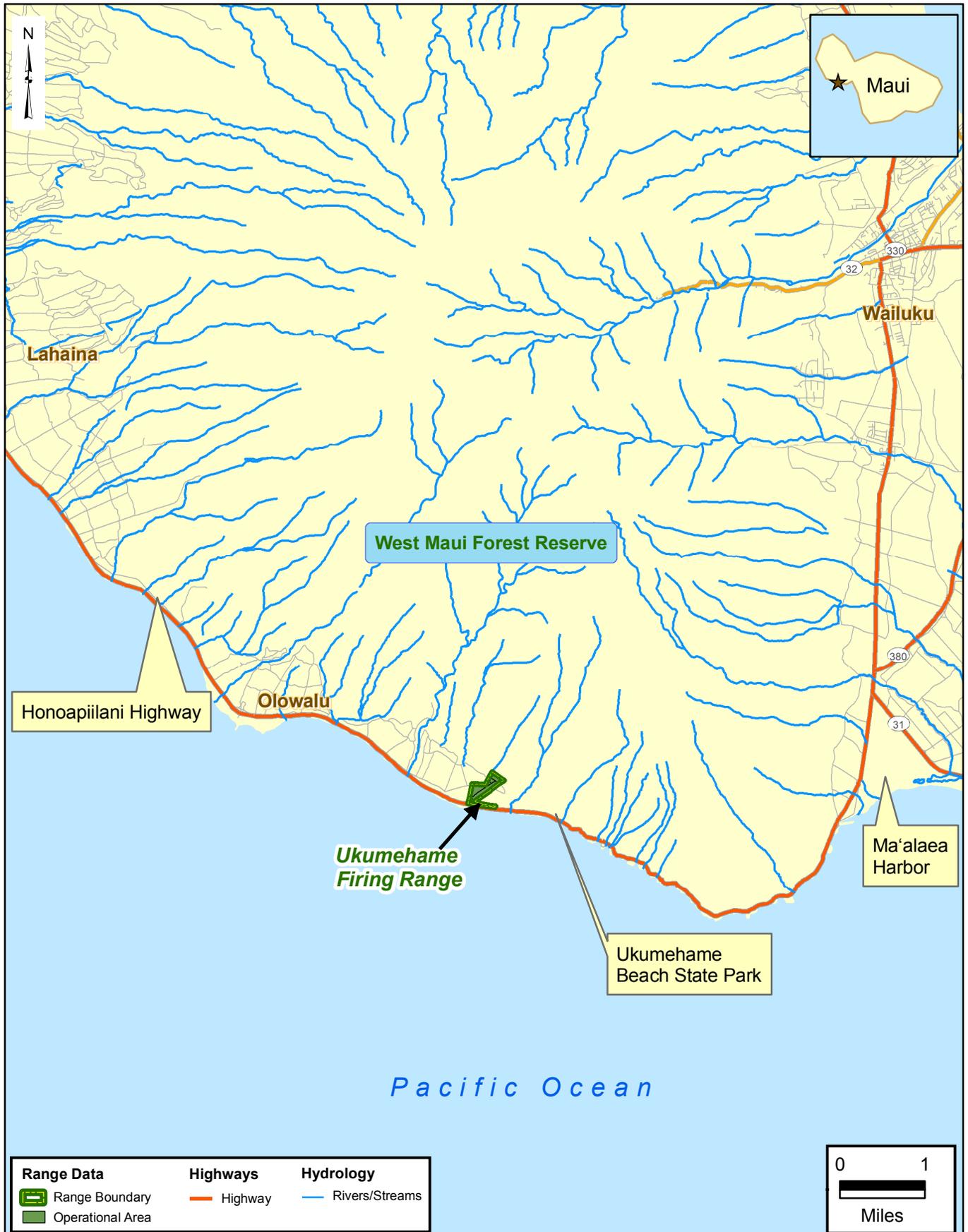
**Table ES-1** summarizes the Phase I Assessment findings.

**Table ES-1: Summary of Findings and Conclusions for Ukumehame Firing Range**

Category	Total Number of Ranges and Acreage	Source(s)	Pathway(s)	Human Receptors	Ecological Receptors	Conclusions and Rationale
Unlikely	3 operational ranges; 39.36 acres	No source – limited or no military munitions use	Not evaluated (no source was identified)			Re-evaluate during the five-year review. No source was identified.
		Small arms firing ranges; impact berms	None	Not evaluated (no migration pathway identified)		Re-evaluate during the five-year review. No migration pathway was identified.

## ABBREVIATIONS/ACRONYMS

ARID-GEO	Army Range Inventory Database-Geodatabase
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CSM	Conceptual Site Model
DoD	Department of Defense
DODI	Department of Defense Instruction
E	Ecological receptors identified. (This refers to range grouping; pathway designation always precedes E designation.)
GW	Groundwater pathway identified. (This refers to range grouping; M designation always precedes GW designation.)
H	Human receptors identified. (This refers to range grouping; pathway designation always precedes H designation.)
HIARNG	Hawai'i Army National Guard
LS	Limited Source.
M	Munitions used. (This refers to range grouping; M designation always precedes applicable pathway.)
MCOC	Munitions Constituents of Concern
NG	Nitroglycerin
NGB	National Guard Bureau
ORAP	Operational Range Assessment Program
PU	Pathway unlikely or incomplete. (This refers to range grouping; M designation always precedes PU designation.)
RFMSS	Range Facility Management Support System
SW	Surface water pathway identified. (This refers to range grouping; M designation always precedes SW designation.)
U.S.	United States
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Command
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
°F	Degrees Fahrenheit



**Operational Range Assessment Program  
Phase I Qualitative Assessment  
Ukumehame Firing Range, Maui, HI**

Figure 1-1  
Range Location

Data Sources:  
ARID-GEO 24 Sept. 2001  
ESRI StreetMap USA, 2005

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