



Marine Corps Logistics Base (MCLB) Barstow, California

Range Environmental Vulnerability (REVA) Factsheet

April 2018

Background

DoD uses and manages operational ranges to support national security objectives and maintain the high state of operational readiness essential to its mission requirements.

DoD conducts non-regulatory, proactive, and comprehensive operational range assessments (ORAs) to support the long-term sustainability of these ranges while protecting human health and the environment.

The purpose of an ORA is to determine if there is a release or substantial threat of a release of munitions constituents (MC) from an operational range to an off-range area that exceeds an applicable regulatory standard or creates a potential unacceptable risk to human health or the environment.

The Range Environmental Vulnerability Assessment (REVA) Program is the U.S. Marine Corps (USMC) program to meet the DoD ORA requirements.

Operational Ranges Overview

MCLB Barstow is located in southern California in the Mojave Desert. The mission of MCLB Barstow is to provide infrastructure, services, and support to Marine Corps forces, tenant activities, and other customers.

Operational ranges at MCLB Barstow are used for small arms training. The ranges were established in 1955 and are located adjacent to each other within the Rifle Range Complex. To the north (downgradient) of the Rifle Range Complex is Interstate 40 and the dry bed of the Mojave River.

Rifle Range Complex consists of three small arms ranges (SARs). REVA focuses on lead as the MC indicator because lead is primarily associated with SAR munitions and is the most prevalent metal found in soils on operational ranges. Other metals assessed include antimony, copper, and zinc.

ORA Findings (03/2018)

The REVA Periodic Review of MCLB Barstow concluded that MC source – receptor pathways are incomplete, consequently, there is no known off-range migration of MC that presents a potential unacceptable risk to human health or the environment. There is relatively low munitions expenditure. The arid desert environment, neutral pH of stormwater runoff, and periodic removal of source material are not conducive to leaching lead from the impact berms. Surface water is only present after infrequent rains and quickly evaporates or infiltrates soils. There are no facilities downgradient of the operational ranges. Exposure of ecological receptors to MC is unlikely due to minimal potential for MC migration.

Next Steps

The operational ranges will be reassessed during the next REVA Periodic Review (5 Years) or sooner if there are changes to site conditions.

Map of MCLB Barstow, California



Range Assessment Overview

Scope:

This REVA Periodic Review for MCLB Barstow covers munitions use on operational ranges that occurred from 2013 through 2017.

The previous REVA study at MCLB Barstow (for the years 2007 through 2012) concluded that there was no unacceptable risk to human health or the environment and no further action was recommended, and ranges would be reassessed during next periodic review.

Approach:

The REVA study uses a conceptual site model (CSM) to inform decision making. A complete CSM pathway consists of a source of MC, transport mechanism of MC to an off-range exposure media, and receptor interaction with the off-range exposure media.

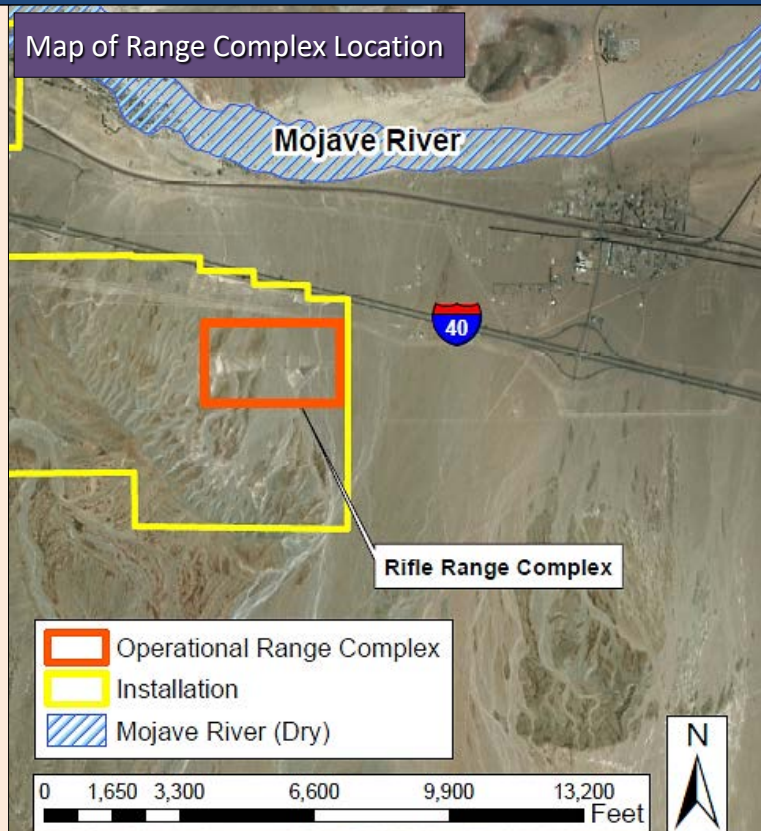
For this REVA Periodic Review, data were collected to update the CSM since the previous REVA review was completed in 2012. This included a review of the operational ranges (e.g., range inventory and changes in design), changes in range use (e.g., amounts and types of munitions expenditure), changes in potential migration pathways, and changes to receptors (e.g., newly installed groundwater supply wells, ecological).

Results:

At MCLB Barstow, the CSM pathways for MC migration from the operational ranges (Rifle Range Complex) to off-range receptors are incomplete, predominantly due to the low usage of the operational ranges and dry conditions.

Source: The quantity of MC (lead) generated is low. Periodic maintenance (most recently in 2012 and 2017/2018) includes removing and recycling lead from the impact berms and regrading the berms to control erosion.

Transport Mechanisms: Off-range migration of MC (lead) is unlikely. There are no permanent surface water bodies and groundwater is 175 feet below ground surface. The arid desert environment and neutral pH of stormwater runoff are not conducive to leaching lead from the impact berms.



Range Assessment Overview (continued)

Off-Range Receptors: No residences or facilities (human receptors) are present between the Rifle Range Complex and dry Mojave River (downgradient from the Rifle Range Complex). Species of concern and one federally and state-listed species are present in the area. Findings indicate that species exposure to surface water or sediment is limited due to minimal stormwater runoff and surface water collection. Additionally, there are no natural or manmade groundwater exposures at the surface.

Conclusion:

The REVA Periodic Review of MCLB Barstow concludes that there is no known off-range migration of MC that presents a potential unacceptable risk to human health or the environment. The operational ranges will be reassessed during the next REVA Periodic Review.

For more information on this range/range complex/installation contact Jennifer Wilber (jennifer.wilber@usmc.mil). For more information on the DoD Operational Range Assessment Program visit <http://www.denix.osd.mil/sri/home/>