



Marine Corps Mountain Warfare Training Center (MCMWTC) Bridgeport, California

Range Environmental Vulnerability (REVA) Factsheet

March 2019

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

MCMWTC Bridgeport is located in the eastern Sierra Nevada mountain range near Yosemite National Park, California. The mission of MCMWTC Bridgeport is to prepare USMC, Joint, and Allied Forces for operations in mountainous, high altitude, and cold weather environments.

The installation is divided into 16 Training Areas (TAs), with 13 small arms training ranges and 3 avalanche initiation sites (AISs) located within the TAs. Munitions use was recorded at 12 small arms ranges (SARs) and 1 AIS during the periodic review period (2012-2017).

Primary munitions used are small arms, where REVA focuses on potential migration of lead. High explosives (HE) are not used extensively at the installation, but some use was recorded at AIS-3 and within three TAs. Potential migration of TNT and RDX is the focus at these ranges.

ORA Findings (12/2018)

The MCMWTC Bridgeport REVA Periodic Review concluded 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. Almost 50% of expenditures are at one range (R-500), but lead recovery from this impact berm reduces the lead source, and there is not a complete pathway to off-range receptors. There are low munitions expenditures at all other ranges. These ranges are well vegetated and generally flat, limiting surface runoff and erosion. Brass and expended small arms munitions are recovered from the ranges after use, further limiting munitions constituents (MC) on the ranges.

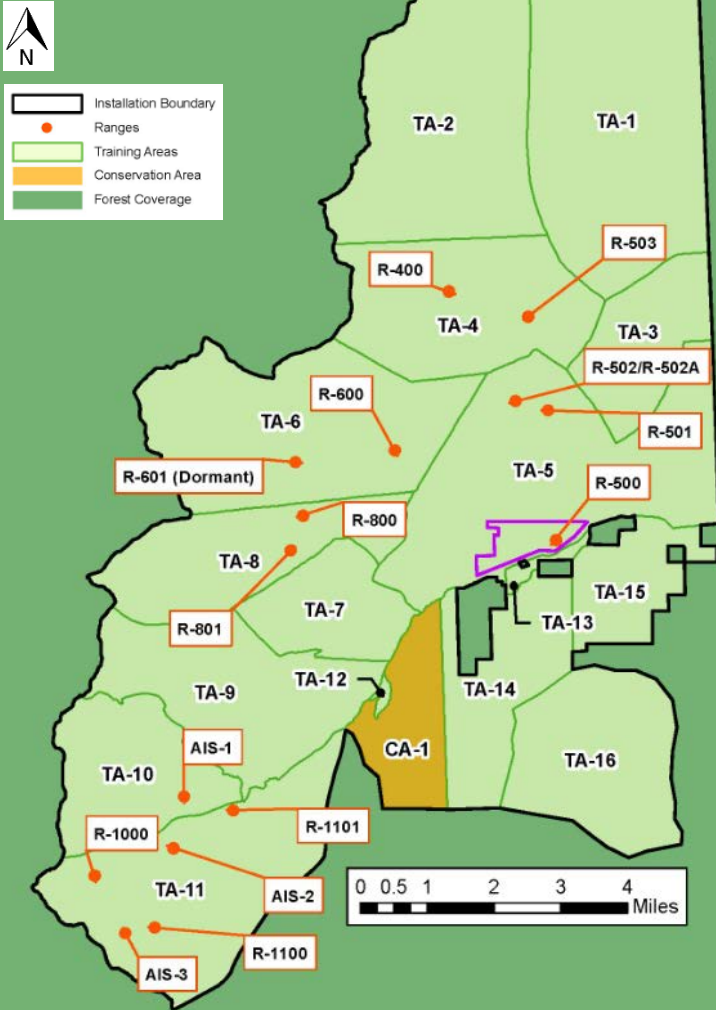
Next Steps

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

Location of MCMWTC Bridgeport, California



Map of Range Complex



For this REVA Periodic Review, data were collected to update the CSM since the previous REVA review was completed in 2011. 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 MCMWTC Bridgeport, the CSM pathways for MC migration from the operational ranges to off-range receptors are incomplete, predominantly due to the relatively low quantity of lead generated at the SARs and RDX and TNT at AIS-3 and within three TAs.

Source: The quantity of MC (primarily lead) generated is low. Periodic maintenance includes picking up brass and expended small arms munitions from the ranges. Lead recovery was performed in 2017 at the earthen impact berm of R-500.

Transport Mechanisms: Off-range MC migration is unlikely based on a limited MC source, thick vegetation, and generally flat impact areas which limit surface runoff and erosion. Precipitation infiltrates to groundwater and reappears as surface water through springs or discharge to streams; however, downward vertical migration of the limited MC source is unlikely. There are not direct pathways or channels to surface water streams or bodies. Runoff from R-500 likely infiltrates prior to reaching surface water.

Off-Range Receptors: Surface water is not used as a drinking water source; however, human receptors may have intermittent exposure through recreation or drinking from mountain streams. Groundwater is a drinking water supply source, but wells are not down-gradient of training areas. Sensitive species inhabit streams and lakes located on the installation.

Conclusion: The REVA Periodic Review of MCMWTC Bridgeport concludes that there is no known off-range migration of MC that presents a potential unacceptable risk to human health or the environment. Although off-range receptors are present, the MC source is low and the environment is not conducive to off-range transport. The operational ranges will be reassessed during the next REVA Periodic Review.

Range Assessment Overview

Scope: This REVA Periodic Review for MCMWTC Bridgeport covers munitions use on operational ranges that occurred from 2012 through 2017. The previous REVA study at MCMWTC Bridgeport (for the years 2007 through 2011) concluded that there was not an unacceptable risk to human health or the environment, no further action was recommended, and ranges would be reassessed during the next periodic review.

Approach: REVA 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 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/>