Fort Bliss, Texas

November 2022

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. The Department 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 Army ORA effort was developed to address DoD requirements detailed in DoD Directive 4715.11 (10 May 2004) and DoD Instruction 4715.14 (15 November 2018). The overall objective of the ORA is to assess operational ranges/range complexes to determine if an off-range MC release or substantial threat of an off-range MC release exists; if an off-range MC release exists, does it exceed an applicable regulatory reporting standard; and if an MC release or substantial threat of a release exists, determine whether it creates a potentially unacceptable risk to off-range human health or the environment. Army ORAs assess potential off-range migration of MC along surface water system and groundwater migration pathways.

Range Overview

Fort Bliss encompasses approximately 1,114,000 acres, in El Paso County, Texas and in Doña Ana and Otero counties, New Mexico. The operational range footprint currently includes 379 ranges that are eligible for assessment under the ORA. The ORA-eligible ranges include 134 firing ranges, 48 firing areas, 56 maneuver training areas, 10 dudded impact areas, 9 non-dudded impact areas, 110 landing zones, 6 drop zones, 4 military observation points, and 2 demolition ranges.

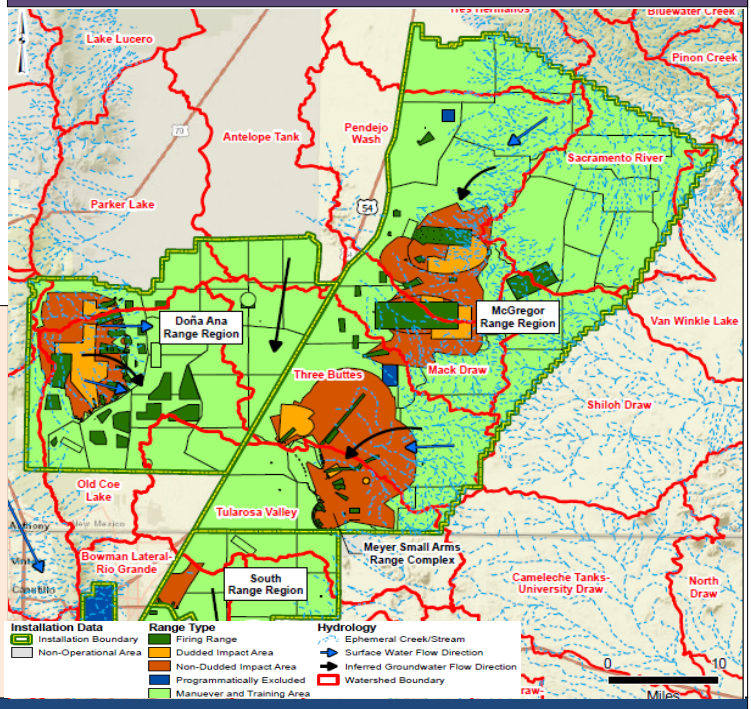
Operational Range Assessment Findings (11/2022)

Based on updated data, no off-range MC release or substantial threat of an off-range MC release currently exists. Therefore, there is no risk to off-range receptors. The operational ranges remain categorized as Unlikely.

Next Steps

Fort Bliss's operational ranges should be included in the FY23-37 cycle of ORAs to satisfy re-assessment requirements.

Map of Range/Range Area



Previous ORA Investigations

The 2008 Phase I ORA Qualitative Assessment for Fort Bliss consisted of collecting, evaluating, and presenting available data to establish if there was a potential interaction between the on-range sources of munitions constituents of concern (MCOC) and off-range receptors (source/receptor interaction). The Phase I ORA evaluated 287 operational ranges, totaling 1,099,380 acres. The Phase I ORA identified small, medium, and large caliber munitions as well as pyrotechnics, obscurants, and other weapons as the primary MCOC sources. Limited or no known sources of MCOC from current or historical munitions use were identified at 132 operational ranges at Fort Bliss. As no source of MCOC was identified, the source-pathway-receptor interaction was determined to be Unlikely.

134 operational ranges at Fort Bliss were found to have sources of potential MCOC, but no surface water or groundwater migration pathways were identified for 100 operational ranges (firing ranges, firing sites, launch complexes, impact areas, historical firing ranges, historical impact areas, and a historical demolition range) and no human or ecological receptors were identified for 34 operational ranges (current and historical impact areas, and historical firing ranges). Due to the location away from recharge areas, the depth to groundwater, the limited annual precipitations, and high evaporation rates, it is unlikely MCOC associated with 100 ranges will migrate to groundwater. Due to the lack of receptors from 34 ranges with potential for MCOC deposited on the surface to infiltrate and recharge the aquifer there is no interaction of MCOC with receptors. Because there were no migration to receptor pathways identified, the source-pathway-receptor interaction was determined to be Unlikely.

For 21 operational ranges (impact areas, firing ranges, historical firing sites, and historical impact areas), potential MCOC source areas, potential surface water and groundwater migration pathways, and potential human receptors were identified. WSMR maintains drinking water supply wells in the Doña Ana Range Region downgradient of the aforementioned 21 operational ranges. These water supply wells have been sampled for both organic and inorganic MCOC during multiple sampling events. No explosive

Previous ORA Investigations (Continued)

compounds or perchlorate were reported above the laboratory detection limit during these sampling events. Lead was detected in one of the White Sands Missile Range (WSMR) water supply wells at a concentration above the drinking water standard; however, based on the depth of the well interval (greater than 300 feet [ft] below ground surface [bgs]) and the characteristics of the alluvial fan deposits where the well was installed, it was determined to be likely the lead detection was naturally occurring. In addition, no corresponding elevated concentrations of lead were reported at the influent to the WSMR water distribution system. While potential sources, pathways, and receptors were identified, previous sampling data indicated that it is unlikely that off-range migration of potential MCOC is occurring at levels that would present an unacceptable risk to human health. All ranges were recommended for the Periodic Review process with re-evaluation occurring within five years or sooner if significant changes in range operations or site conditions occur.

The purpose of the 2014 Periodic Review for Fort Bliss was to re-evaluate the 2008 Phase I and determine whether the sources, pathways, and receptor evaluation completed during the initial assessment remain valid. The Periodic Review evaluated 305 operational ranges encompassing 1,099,380 acres. Limited to no source was identified on 136 operational ranges based on the limited to no use of military munitions. Current source of MC from training was identified at 169 operational ranges; however, incomplete surface water and groundwater migration pathways were identified for 109 operational ranges. Potential groundwater pathway identified for 36 operational ranges; however, no downgradient receptor wells were identified. Potential groundwater pathway and downgradient human receptors were identified for 24 operational ranges; however, sampling data collected from downgradient water supply wells (located in the Doña Ana Range Region) and WSMR water distribution system indicated that analytes (copper and lead) have been consistently below human drinking water standards. Additionally, there were no detections of explosives and perchlorate in association with a 2003 Regional Range study.

ORA Basic Assessment (2022)

The Basic Assessment findings indicate that Fort Bliss currently encompasses 1,114,00 acres with an operational range area of 1,099,000 acres. The remaining 15,000 acres consist of the non-operational cantonment area. Since the Periodic Review was completed in 2014, the operational range count has increased from 305 to 385. One recreational range, 2 indoor ranges, and 3 non-dudded impact evaluated under the Military Munitions Response Program were programmatically excluded; therefore, 379 operational ranges encompassing 1,089,783 acres were evaluated. This change to the operational range count is the result of changes due to retrofitting, major construction events, and range closures.

Currently, Fort Bliss's operational range footprint consists of 379 ORA-eligible operational ranges that include 134 firing ranges (live-fire ranges; Military Operations in Urban Terrain [MOUT], HAWK, Tactical Air Control [TAC], and Integrated Fire Control [IFC] sites), 48 firing areas (artillery and mortar firing points, firing positions, and firing boxes), 56 maneuver training areas, 10 dudded impact areas, 9 non-dudded impact areas, 110 landing zones, 6 drop zones, 4 military observation points, and 2 demolition ranges.

Since the 2014 Periodic Review, overall munitions use has increased. Limited or no source was identified at 285 of the operational ranges, which include firing ranges (MOUT, HAWK, TAC, and IFC sites), firing areas (artillery and mortar firing points, firing positions, and firing boxes), maneuver training areas, landing zones, drop zones, and military observation points. The ranges were designated as limited or no source areas due to no or limited widespread munitions use. A source of MCOC was identified at 94 operational ranges, which include firing ranges (live-fire firing ranges), dudded impact areas, non-dudded impact areas, and demolition ranges; additional source loading has occurred at each of these ranges since the 2014 Periodic Review. The potential source of MCOC identified for these ranges includes metals, explosives, perchlorate, and white phosphorus.

Incomplete Pathways

A source of MCOC was identified at 9 operational ranges; however, all surface water/stormwater runoff

ORA Basic Assessment (2022) (Continued)

is directed towards the interior of the operational range area at Fort Bliss. Due to the limited precipitation coupled with high evapotranspiration rates, which promotes evaporation as opposed to surface water flow, no runoff is expected to discharge to off-range areas. While groundwater in basin fill deposits is generally recharged primarily by the inflow of precipitation, runoff, and stream fill along mountain fronts, these ranges are not located in the recharge areas for the aquifers. Therefore, the surface water and groundwater migration pathways are unlikely.

Incomplete Pathways – Existing Sampling Data

A source of MCOC was identified at 85 operational ranges located within the McGregor Range Region (including the Meyer Small Arms Range Complex) and Doña Ana Range Region. All surface water runoff in the vicinity of these ranges is directed towards the interior of the operational range area at Fort Bliss. Due to the limited precipitation coupled with high evapotranspiration rates, which promotes evaporation as opposed to surface water flow, no runoff is expected to discharge to off-range areas. While the ranges are located within the recharge areas for the Tularosa Basin to the Hueco Bolson aquifers, along the fronts of mountains, due to the limited precipitation, lack of perennial surface water features, and substantial depth to water (350 to 500 ft bgs), there is limited recharge to the aquifers through precipitation, runoff, and stream fill expected along the mountain fronts at Fort Bliss. Furthermore, existing sampling data from wells downgradient of the source area ranges confirm the incomplete groundwater migration pathway. No downgradient human or ecological receptors were identified for these ranges. Therefore, the surface water pathway and groundwater migration pathways were determined to be unlikely and there is no risk to potential off-range human or ecological receptors.

The Basic Assessment findings indicate that the Unlikely conclusions from the Periodic Review remain valid because no potential source/pathway receptor interactions were identified at Fort Bliss. Fort Bliss's operational ranges should be included in the Fiscal Year 23-27 cycle of ORAs to meet DoDI requirements.

For more information on Fort Bliss, contact the Public Affairs Office at usarmy.bliss.1-ad.mbx.1-ad-fort-bliss-pao@army.mil

For more information on the DoD Operational Range Assessment Program visit https://www.denix.osd.mil/orap/home/