



Aberdeen Proving Ground, Maryland

March 2023

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

APG is a 72,140.2-acre installation located along the Chesapeake Bay in southern Harford and northeastern Baltimore County, Maryland. The main portion of the installation is divided into two geographically distinct areas, separated by the Bush River. The Edgewood Area lies to the west of the Bush River and the Aberdeen Area lies to the east. The operational range footprint currently includes 80 ranges that are eligible

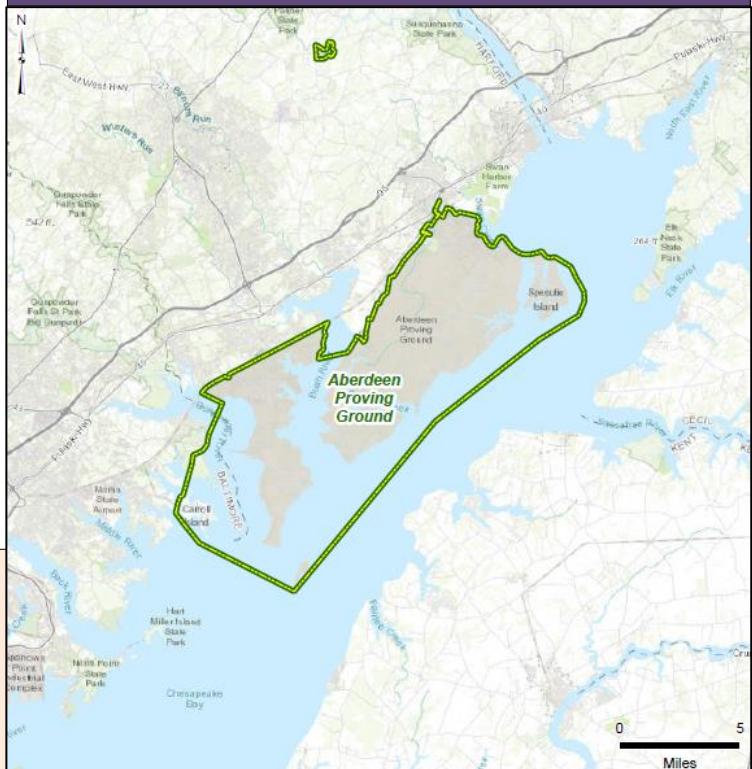
Operational Range Assessment Findings (03/2023)

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

Next Steps

APG's operational ranges should be included in the FY23-27 cycle of ORAs to meet DoD Policy (DoDI 4715.14) re-assessment requirements.

Map of Range/Range Area



Installation Data

Installation Boundary

for assessment under the ORA. The ORA-eligible ranges include 65 RDTE areas, 2 parade and drill fields, 5 maneuver and training areas, 4 impact areas, 2 firing ranges, 1 underwater test facility, and 1 demolition range. The operational testing areas are located throughout eight range regions that compose APG. The range regions include the Aberdeen Peninsula, Edgewood Peninsula, Spesutie Island, Graces Quarters, Carroll Island, Poole's Island, Churchville Test Area, and impact areas within the waters of the Chesapeake Bay, as well as the Bush River, Gunpowder River, Romney Creek, and Spesutie Narrows.

Previous ORA Investigations

The 2008 Phase I ORA Qualitative Assessment for APG consisted of collecting, evaluating, and presenting available data to establish if there was a potential interaction between the on-range sources of MCOC and off-range receptors (source/receptor interaction). The Phase I ORA evaluated 63 operational ranges, totaling 66,313 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 one operational range at APG. As no source of MCOC was identified, the source-pathway-receptor interaction was determined to be Unlikely.

Fifty-seven ranges were found to have current and historical sources of potential MCOC with the potential to migrate off-range via leaching, infiltration, erosion/runoff, and recharge/discharge of groundwater and surface water. Multiple investigations assessed the presence of MCOC in the surface water and sediment of APG's Water Impact Areas. Based on the absence of elevated MCOC concentration in these on-range areas, the distance of on-range source areas from off-range areas of the bay, and the volume of flow from APG in relation to flow in the Chesapeake Bay, it was not thought that potential MCOC would reach off-range human or ecological receptors at levels high enough to pose a viable risk via surface water pathways. Therefore, the source-pathway-receptor interaction was determined to be Unlikely.

Previous ORA Investigations (Continued)

Five ranges had current and historical sources of potential MCOC with the potential to migrate off-range via leaching, infiltration, erosion/runoff, and recharge/discharge of groundwater and surface water. Multiple investigations have assessed the presence of MCOC in the surface water and sediment of APG's Water Impact Areas. Based on the absence of elevated MCOC concentration in these on-range areas, the distance of on-range source areas from off-range areas of the bay, the volume of flow from APG in relation to flow in the Chesapeake Bay, and the implementation of treatment and monitoring programs it is thought that potential MCOC would not reach off-range human or ecological receptors at levels high enough to pose a viable risk via surface water or groundwater pathways. Therefore, the source-pathway-receptor interaction was determined to be Unlikely.

During the 2015 Periodic Review, the operational range count increased from 63 to 127 ranges; however, acreage decreased to 64,322 acres. No source was identified at one operational area which consisted of a vehicle test course and had no historical source of MCOC. Potential source areas were identified at 126 operational areas; however, the installation's operational land was found to be completely buffered by restricted water before reaching off-range areas of the Chesapeake Bay. Additionally, previous sampling events confirmed MCOC concentrations decreased with distance from source areas. As a result, the 127 operational ranges evaluated were categorized as Unlikely.

Basic Assessment Overview

The Basic Assessment determined that the operational range count based on the updated GIS data has decreased from 127 to 80 operational areas; however, range personnel confirmed there have been no major installation boundary or range changes since the 2015 Periodic Review. Based on interviews, there is no official range count at APG, and the documented range count varies to allow flexibility with the training and testing areas, explaining the decrease in operational testing areas.

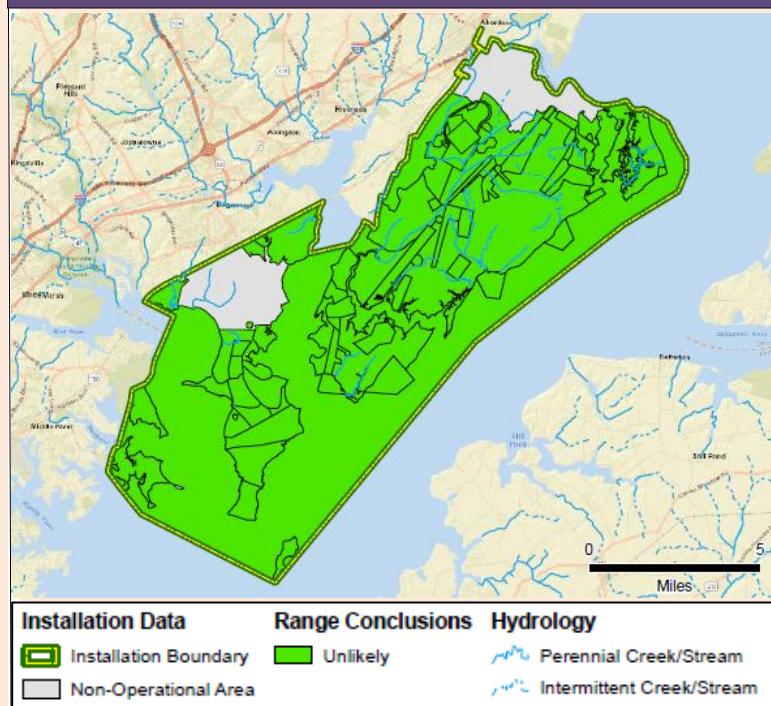
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Basic Assessment Overview (Continued)

Based on the analysis of current conditions and considerations of previous sampling data, it was concluded that no source was identified for one operational range, the Churchville Test Area as usage as remained the same since the previous assessment and it continues to be unlikely that MCOC would migrate from the range. A source of MCOC was identified at 79 operational ranges with the Aberdeen and Edgewood areas. Potential MCOC at these ranges include explosives, metals, perchlorate, and uranium. Based on the review of previous sampling data and current water quality reports, MCOC are not migrating off-range via the surface water or groundwater pathway and there is no risk to off-range human and/or ecological receptors. Additionally, the operational land area of APG is surrounded by a barrier of restricted water that is within the operational range boundary further inhibiting the migration of MCOC off-range. As a result, these operational ranges are categorized as Unlikely.

All of Aberdeen Proving Ground's operational ranges should be included in the Fiscal Year 2023-2027 (FY23-27) cycle of ORAs to meet DoDI requirements.

Basic Assessment Conclusions

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