

## Environmental Management at Operating Outdoor Small Arms Firing Ranges (SMART-2)

### EXECUTIVE SUMMARY

Small arms ranges are important locations to provide safe places to learn and practice shooting skills for law enforcement, military and recreational shooters. Contaminants from projectiles, targets, or primers used at a range can potentially migrate in the environment. Depending on the depth of groundwater, climate, soil chemistry, or proximity to surface water at the range, contaminants can reach groundwater or surface waters. In some instances, projectiles and targets are discharged directly to wetlands or surface waters. Left unmanaged, contaminants at or from a range could pose a health risk to wildlife or people who are exposed to affected environmental media. Some range operators may be unaware of the potential for range activities to impact the environment and have not designed or operated the range in a protective manner. State and federal environmental agencies generally have no specific regulations overseeing the operation of ranges. These agencies can and do, however, enforce laws regulating releases of contaminants to the environment and the disposal of wastes. Some state and federal agencies have developed technical assistance programs and guidance to inform range owners and operators and community stakeholders of the design and management options for improved environmental operation of ranges.

This document addresses the minimization of potential exposure to metals, especially lead, associated with shooting ranges. It is not a general discussion of health effects stemming from exposures to lead, nor is it intended to be a manual on range safety. The reader is encouraged to access other sources of more detailed information on these subjects.

Many range operators are committed to being stewards of the environment. The growth of environmental awareness, loss of rural areas through continued land development, and mixed public attitudes toward firearms and ranges shape the context in which ranges operate. Practicing environmental stewardship provides an opportunity for operators to proactively manage their ranges and prepares them to respond to concerns that may arise from range neighbors, the community, or others. Voluntary implementation of science-based environmental stewardship encourages self-oversight rather than regulatory intervention with the range. Well-designed and -managed ranges should incur only manageable environmental issues during operation. Environmental conditions at operating ranges need to be evaluated, however, to delineate any existing and potential risks to the environment. Upon identifying a problem, measures should be undertaken to correct, prevent, or minimize adverse environmental impacts.

This guidance, a follow-up to *Characterization and Remediation of Soils at Closed Small Arms Firing Ranges* (ITRC 2003a), is designed to assist range operators in developing, using, and monitoring environmental management plans at active outdoor small arms firing ranges. The central task in formulating an environmental management plan is the selection and implementation of effective and reliable pollution prevention and mitigation measures, otherwise referred to as “best management practices” (BMPs). This document—developed by a partnership among state and federal environmental representatives, U.S. Department of Defense (DoD), shooting sports industry, and stakeholders—focuses on providing range operators with the guidance they need to identify and undertake BMPs that are appropriate for and tailored to the site-specific environmental conditions at their ranges. It is a synthesis of several of the most used and tested guidance documents to date and builds upon this information by adding experiences from case studies.

This guidance is organized according to the sequence of activities a range operator undertakes to develop and implement an environmental management plan. Beginning with the identification of range-specific environmental issues, options for BMPs provide the most reliable and effective techniques to address the particular issues identified by the range evaluation. Incorporating selected BMPs into an environmental management plan; implementing, assessing and modifying the plan, as necessary; and documenting its implementation should become a routine operation to provide an environmentally safe and secure range.