



Small Arms Firing Range Success Story

Exeter, New Hampshire

The threat of contamination and the safe environmental management at small arms firing ranges (SAFRs) is a growing concern. SAFRs include government, commercial and recreational rifle, pistol, trap, skeet, and sporting clay ranges. The Interstate Technology & Regulatory Council (ITRC) developed two guidance documents to address strategies for removing harmful metal contamination at closed SAFRs and for developing, using and monitoring environmental management plans at active ranges. The following project provides an example of the effectiveness and cost saving benefits of ITRC SAFRs resources.

Project Summary

In New Hampshire, informed range owners and operators are proactively taking steps to protect the environment and limit their legal exposure by instituting best management practices (BMPs) to mitigate potential threats to human health and the environment. During lease renewal, the Town of Exeter required the Exeter Sportsman's Club to close temporarily for an environmental site investigation and cleanup. The partnership between the town, range operators and the New Hampshire Department of Environmental Services (DES) went smoothly, with all parties working together to agree on how best to remediate the range to meet New Hampshire's cleanup standards.

Environmental Cleanup

The New Hampshire DES required the range owner to conduct an environmental site assessment (ESA) on an old skeet range. The ESA results showed:

- Lead shot heavily scattered throughout the range from 40 years of shooting; and
- Lead shot in wetland sediments.

The following ITRC guidance documents were used prominently in the cleanup of the site:

- ITRC's *Characterization and Remediation of Soils at Closed Small Arms Firing Ranges* (SMART-1, January 2003)
- ITRC's *Environmental Management at Operating Outdoor Small Arms Firing Ranges* (SMART-2, February 2005)



Lead shot at the Exeter Sportsman's Club firing range

Benefits of using ITRC Products:

- 200 cubic yards of sediments removed and converted to shooting berms (soil backstops) for the rifle and pistol ranges resulting in substantial cost savings compared to off site disposal.
- The project is estimated to have saved \$15,000 in disposal costs.



“ITRC does good work, and their small arms range guidance is based on solid science.”

—Rick Patterson
Director of Facility Development
for the National Shooting Sports Foundation

Using ITRC’s guidance documents and the U.S. Environmental Protection Agency’s “Best Management Practices for Lead at Outdoor Shooting Ranges” manual (2001) as a guide, approximately 200 cubic yards of lead and lead shot-contaminated sediment were dredged and removed from wetlands that were a part of the range abutting the town’s drinking water reservoir. The sediment was reused as a pistol range berm in an upland area.

ITRC Resources

The ITRC guidance documents offer a logical and easy-to-follow decision diagram for determining how best to remediate lead and lead-contaminated soils at closed small arms firing ranges. New Hampshire DES has since developed a regulatory approach for outdoor shooting ranges that incorporates and references ITRC SAFR guidance documents. New Hampshire DES’ approach addresses various issues, including shooting over wetlands, and offers an appropriate action to take to resolve issues, decrease review and approval time, and save money.



The newly developed pistol range berm at the Exeter Sportsman's Club

Contaminants Typically Present at Small Arms Firing Ranges

- Lead
- Antimony
- Copper
- Zinc
- Arsenic
- Polycyclic aromatic hydrocarbons (PAHs)