Managing Lead Shot at Your Range

☑ **DO pay attention to this issue.** The sooner your club acts to properly manage lead shot and lead bullets, the better. Managing lead today will protect public health and the environment at and surrounding your range, and demonstrate your club's commitment to responsible range management. Clubs that do not act to manage lead shot and lead bullets risk spending more money later to address lead-related problems.

☑ **DO assign one or more club members to the task of lead shot management.** Ensure that your club develops a plan of action for managing lead shot and lead bullets by assigning the responsibility of learning about the issues and management options to interested members who are willing to take on this task.

☑ **DO have those members familiarize themselves with available guidance.** Obtain a copy of both the National Shooting Sports Foundation's ***Environmental Aspects of Construction and Management of Outdoor Shooting Ranges*** and the Environmental Protection Agency's ***Best Management Practices for Lead at Outdoor Shooting Ranges.*** Both manuals will help a club identify problems with its existing lead shot management and the best options for improving conditions at its ranges. The NSSF manual may be obtained from NSSF (by calling 203-426-1320 or at **http://www.rangeinfo.org**) or from the Gun Owners' Action League (by calling 508-393-5333). The EPA manual is available at **http://epa.gov/region2/waste/leadshot.**

⃠ **DON'T shoot lead shot into open water or wetlands.** Lead is toxic to fish and other aquatic life and can be lethal to birds, such as ducks and geese that ingest lead pellets while feeding. Lead can enter the food chain, poisoning wildlife that feed on animals that have been exposed to lead. If your club currently shoots into open water or wetlands, it must either erect a barrier such as a shot curtain, or reorient the range to prevent the shot from entering the water or wetlands.

☑ **DO prevent surface water run-off from the range from draining directly into nearby streams, ponds, or wetlands.** If your range is currently subject to flooding or surface water runs off the range into nearby streams, ponds, or wetlands, you may need to implement drainage control measures to prevent lead from entering surface waters or sediments.

☑ **DO construct and maintain rifle and pistol range backstops to prevent lead migration, and facilitate the recovery and recycling of spent bullets.** Lead bullets must be managed to prevent lead migration. Backstops should be constructed of material that effectively captures bullets and covered by a roof, called an "eyebrow," to prevent precipitation from eroding the berm and increasing lead mobility. "Eyebrows" also help to contain ricochets.

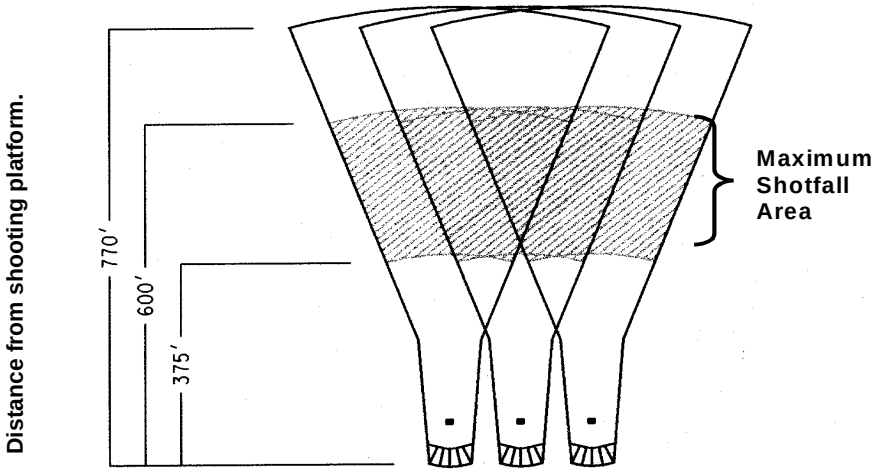
Side view of a rifle/pistol range backstop. An "eyebrow" prevents precipitation from eroding the backstop and helps to contain ricochets. Figure adapted from *Environmental Aspects of Construction and Management of Outdoor Shooting Ranges,* National Shooting Sports Foundation, 1997.

⃠ **DON'T shoot lead shot onto property that is not owned by your club.** Even if your neighbor permits your club to shoot on his or her land, this practice is unwise. Your club cannot control current and future activity on the neighboring property and therefore, cannot prevent potential human exposure to the lead. While your neighbor's property may be currently unoccupied, in the event that it is sold or developed, people could be exposed to lead when the land use changes. Your club will have responsibility for cleaning up the lead.

☑ **DO invite the Massachusetts Lead Shot Initiative regional contact to your range for a visit.** The Massachusetts Lead Shot Initiative assists clubs in implementing measures at their ranges to better manage lead shot. The regional Initiative contact can evaluate your club's current lead shot management, and assist in its development of an "environmental stewardship plan." Regional contacts are listed on the last page of this brochure.

☑ **DO develop a plan to periodically remove and recycle the lead shot from your ranges.** Once you are familiar with the options for lead management and have consulted with the Massachusetts Lead Shot Initiative, put your environmental stewardship plan on paper and into action. Review the plan annually and adjust it based on actual experience and other relevant information (e.g., changes in the amount of shooting or number of ranges in use, range renovations, etc.).

☑ **DO maintain your range in a manner that facilitates lead shot recovery.** Recovery and recycling of lead shot is made easier if your range is relatively flat and free of obstacles such as large boulders, brush, and small trees. Recovery equipment can work around large trees. Large trees also help to keep the shot from traveling further into wooded areas where it can be difficult to recover. In maintaining your range, and prior to lead recovery, clear fields of large boulders, brush, and small trees. After completing the initial recovery of the lead shot, regrade hilly terrain to facilitate the use of excavating equipment for future lead shot recovery operations. Consult an expert on what measures make sense for the terrain at your ranges and to avoid actions that increase the fall zone area or surface water run-off from the range.



Lead trap loads can travel 770 feet, with most shot landing between 375 and 600 feet from the shooter. The shotfall zone for a single trap field covers about 4 acres. Each additional trap field adds ~ 1¾ acres to the fall zone (assuming the trap houses are 100 feet apart).
Figure adapted from *Environmental Aspects of Construction and Management of Outdoor Shooting Ranges,* National Shooting Sports Foundation, 1997.

⃠ **DON'T move soil from backstops or shotfall zones without taking the proper precautions.** Soil in a backstop of a rifle/pistol range or in the shotfall area of any range contains metallic lead (from lead bullets or lead shot pellets). Soil particles from these areas also typically have high levels of lead compounds. Because this lead-laden soil can pose a risk to human health if direct exposure to the soil occurs (via inhalation or ingestion), it is critical that this soil be properly managed. After reclaiming lead shot, bullets, or bullet fragments from range soils/backstop, soils should be returned, if possible, to the original range/backstop or relocated within the range (e.g., to rebuild the backstop or construct a safety berm). Soil may also be reused on the club property to construct a new range or range feature. The movement and relocation of soil within club property, in all cases, should be thoroughly documented in club records.

If your club has a need to remove soil from a backstop or shotfall zone **off** club property, federal and state law requires that appropriate soil testing, transportation, and disposal rules be followed to ensure that the soil does not end up in a location that is unsafe or undocumented. Whether your club intends to move range soil off-property or within the boundaries of its property, it is strongly advised to discuss its specific plans with the regional Massachusetts Lead Shot Initiative contact before any soil movement takes place.

☑ **DO include lead shot management in the operating budget of your club.** Appropriate management of lead shot is part of the cost of operating your ranges. Once a club has determined how often it should recover and recycle lead shot (e.g., once every 3, 5, or 10 years), it needs to budget for it. A club will receive money for recycled lead shot. Depending on the amount of lead shot recovered and the relative effort necessary to remove it from the range, the amount received may not fully cover the recovery costs.

☑ **DO use non-toxic biodegradable targets.** Many clubs have had good experience using the non-toxic biodegradable targets currently on the market. These targets are comparable in price and do not break any more readily than conventional targets.

☑ **DO rake up spent targets and plastic wads on a routine basis.** They may be collected and disposed of as solid waste.

Help with Range Design and Lead Shot Management

National Rifle Association provides technical assistance on the design of new ranges to address safety, noise, and environmental concerns. Contact the NRA by calling 703-267-1000 or at **http://www.nra.org**.

National Shooting Sports Foundation provides technical assistance and publications on a broad list of range management issues, including lead shot management. Contact the NSSF by calling 203-426-1320 or at **http://www.rangeinfo.org.**

Environmental Protection Agency has published ***Best Management Practices for Lead at Outdoor Shooting Ranges****,* 2001, on lead shot issues and management alternatives. Copies of the manual are available at **http://epa.gov/region2/waste/leadshot.**

Massachusetts Lead Shot Initiative is a partnership between the Department of Environmental Protection and representatives of the Commonwealth's shooting sports community. Initiative representatives will visit your club and evaluate current lead management and options for addressing any problems. The Initiative also provides education and outreach programs at county league and club meetings and other venues. Visit **http://www.state.ma.us/dep/files/pbshot/Pb_shot.htm** for more on the Lead Shot Initiative**.** To arrange a visit of your club or to request a presentation, contact an Initiative representative:

MA Department of Environmental Protection

Elizabeth Callahan, Boston, 617-348-4056
Daniel Gilmore, Southeast Region, 508-946-2808
Mary Gardner, Central Region, 508-792-7650
John Keating, Northeast Region, 978-661-7631
Thomas Keefe, Western Region, 413-755-2117

Massachusetts Sportsmen's Council

Mike Moss, President, 508-865-4828
John Kellstrand, Southeast Contact, 781-878-0310
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Revised 8/01/02

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