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Why We Should Ban Lead Ammo

By: Adam Keats and Shaye Wolf, Ph.D

Adam Keats is Senior Counsel at the Center for Biological Diversity in San Francisco, California. Shaye Wolf, Ph.D., is a Staff Biologist at the Center for Biological Diversity.

Abundant scientific evidence has proven that lead is toxic to humans and wildlife.

Significant, measurable health effects to humans result from even the lowest detectable levels of lead exposure (Kosnett 2009). Numerous studies have also demonstrated the significant health and behavioral effects of lead in many wildlife species including waterfowl, avian scavengers, and mammals (Tranel and Kimmel 2009). Despite this evidence, lead ammunition continues to be widely used and, consequently, to introduce toxic lead into the environment and the food chain. Lawmakers have mandated its removal from gasoline, paint, and toys. Now it's time to get the lead out of ammunition.

The evidence demonstrating lead ammunition's toxicity to wildlife is overwhelming. In 1991, lead shot was banned for use in waterfowl hunting due to the well-documented harmful effects of its ingestion by wild waterfowl (Sanderson and Bellrose 1986). Lead poisoning of California condors and golden eagles has been shown to increase during deer-hunting seasons (Hall et al. 2007, Hunt et al. 2007, Sorensen and Burnett 2007, Bloom et al. 1989). Radiographs demonstrate the pervasiveness of lead fragments in quantities sufficient to cause harm in the carcasses of hunter-shot game and in gut piles left in the wild that scavengers eat (Hunt et al. 2006). In addition, the isotopic signatures of lead found in California condors correspond to the signatures of lead ammunition (Church et al. 2006).

In 2007, 44 scientists joined to state their support for the "robust chain of evidence" linking lead ammunition to lead exposure in California condors (Beissinger et al. 2007, Cade 2007). A 2008 "Blue Ribbon Panel" convened by the American Ornithologists Union reached the same conclusion (Walters et al. 2008). Other scavengers face similar exposure, and studies continue to show lead poisoning in a wide range of birds and even mammals (Watson et al. 2009). Most recently, evidence has emerged that humans are also at risk from eating meat tainted by lead ammunition (Hunt et al. 2009, Avery and Watson 2009, Cornatzer et al. 2009, U.S. DHHS 2008, Verbrugge et al. 2009, Watson and Avery 2009).

Despite the environmental advantages of nontoxic ammunition, such alternatives are rarely used and, in fact, often meet with resistance from within the hunting community. Opponents argue that non-lead ammunition is not as effective, available, or affordable as traditional lead products. Some people suggest that the effort to remove lead ammunition is a covert attempt to end hunting. None of this is true.

Nontoxic alternatives made of solid copper or various blends of other metals are ballisticly superior to lead ammunition (Oltrogge 2008), and virtually every caliber used by hunters is available in a non-lead form. Non-lead ammunition costs only slightly more than comparable "premium" lead ammunition and, more important, barely increases the overall cost of hunting (U.S. DOI and U.S DOC 2003). There is no evidence to support claims that these slight increases in cost for non-lead ammunition result in the abandonment of the sport by hunters.

Still, there is room for improvement in both availability and cost of non-lead ammunition. It should be made available for sale at reasonable prices everywhere ammunition is sold. The only way this will happen, however, is if the law requires

the use of nontoxic ammunition. After the waterfowl lead ban, for example, reasonably priced non-lead shot was soon plentiful.

Efforts to encourage the voluntary switch to nonlead ammunition, including a program in Arizona that widely distributes free non-lead ammunition, have been modestly successful (Parish et al. 2009, Sieg et al. 2009, Walters et al. 2008), and the hunters who comply with this laudable effort should be given credit for the reductions in lead poisoning incidents of condors. However, voluntary efforts and limited bans on lead have major limitations: Leaded ammunition remains readily available and cheaper than non-lead alternatives, subsidies of non-lead ammunition are not economically sustainable, low amounts of noncompliance can still cause harm, and different requirements between hunting zones create enforcement and compliance difficulties, straining enforcement budgets.

California's limited ban shows that manufacturers and stores will offer non-lead ammunition if bans are enacted. Cabela's, a major retailer of hunting ammunition, now prominently features a lead-free ammunition section on its website, for example. Our experience with paint, gas, toys, and waterfowl shot suggests that a government ban on lead ammunition is the most effective way to eliminate lead and to increase the use and availability of non-lead alternatives. Until such alternatives are fully required and lead ammunition is no longer sold, the harm to wildlife and humans will continue.

Unfortunately, naysayers will remain for whom no amount of scientific evidence will be sufficient. They will continue to ignore good science and base their opinions on unfounded fears (in this case, that the lead ammunition debate is in any way related to the gun or hunting debates). We've been allowing these fears to govern for far too long. It's time to bite the bullet and get the lead out—once and for all.