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The Price of Freedom: How our choice to use lead is killing the bald eagle (Part 1)

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The bald eagle is an American icon, a symbol of freedom, and for conservationists, one of the nation's greatest success stories. Restored from near extinction, the species has been thriving once again—or so we thought. As it turns out, mankind may be placing unnecessary pressure on America's best known bird.

Cornell University's [Animal Health Diagnostic Center](#) (AHDC) employs some of the brightest minds in ecology and wildlife health. [Dr. Krysten Schuler](#), a wildlife disease ecologist, has been leading the research effort exploring the role environmental lead plays in bald eagle health. Schuler partnered with the New York State Dept. of Environmental Conservation to analyze two decades' worth of data collected from New York State to identify sources of mortality. Their results are disturbing: 17% of bald eagle carcasses examined revealed death due to lead poisoning, and 80% had measurable lead levels in their blood, tissues, or bone. Schuler reports that adult eagles are more likely to die from lead poisoning than juveniles, posing a serious threat to the reproductive success of the species because adults nest and rear young.

Where is all this lead coming from? A likely significant source is ammunition. Lead bullets are commonly and traditionally used for game hunting, which can leave trace levels in meat as well as in the environment. When carcasses or offal are left on the landscape, eagles will scavenge from them, consuming lead bullet fragments. Lead is toxic to all animals, including humans, and eating venison shot with lead bullets may pose a risk to consumers. Schuler explains that the bullet fragments when it hits its target, and small shards can travel more than a foot from the wound channel where they are less likely to be removed during the butchering process. Pregnant women and children are particularly sensitive to the toxic effects of lead, as developing tissues are vulnerable and easily damaged by the toxin.

So, how can we protect our families and our wildlife? Consider alternative ammunition. Modern non-lead bullets are inexpensive and do not foul firearms, as was once widely believed in the hunting community. These alternatives are safe and effective, and when combined with proper hunting etiquette, such as recovering carcasses and properly disposing of entrails, can make a real impact in the levels of lead present in the environment. Even recreational shooting with lead contaminates the environment, and participants should also consider alternatives. Lead bullets may be traditional, but they are also replaceable.

While 80% of bald eagles with measurable lead is a startling figure on its own, it is important to recognize that this species serves only as a snapshot of the entire picture. Lead is toxic to all wildlife and humans, and shared sources of food are the common denominator. "This is a



Photo credit: AHDC

problem that is both man-made and solvable,” says Schuler, emphasizing that humans have introduced lead into the environment and therefore hold the responsibility of removing it as well. Research conducted by the AHDC brings to light the severity of lead toxicity in New York State, exposing it as a true threat to wildlife health where it otherwise may have persisted as a silent killer. Schuler adds, “Just because we don’t see piles of dead eagles doesn’t mean it’s not a problem.” Thanks to her contribution, both problem and solution are now quite clear.

-by Melissa Hanson, rising third-year DVM student

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