

WILD AMERICA'S MARTY STOUFFER SAYS "GET THE LEAD OUT!"

"My lead shot days are over," announces Marty Stouffer, producer and host of Public Television's *WILD AMERICA*. Some viewers may be surprised to learn that this naturalist and conservationist is also an avid hunter. As such, Stouffer now feels compelled to communicate a major problem contributing to the destruction of our wildlife and the health of all Americans--lead in the environment.

Widely used throughout history in sculpture, architecture, ammunition, and water pipeline systems, the element lead is just now being revealed as a poisonous heavy metal with a deadly reputation. News stories about it have recently appeared in *The New York Times Magazine*, *American Health*, *Audubon*, *Science News*, and in a *Newsweek* cover story. The reason that lead, which man has used since before the Egyptians refined it in 3000 B.C., is coming into view in the 1990's, is though we've drastically cut back on our modern uses for lead, it's still present in our drinking water, air, soil, paint on the walls of 75% of U.S. homes built before 1980, and even the foil wrappers sealing our wine bottles.

Though pencil manufacturers voluntarily substituted lead for graphite in the 1960's, and the federal government banned the use of lead-based paint in 1978 and then phased out most leaded gasoline in the 1980's, lead remains with us, literally. Inside each of us is a measurable quantity of the metal. The amount of lead in our environment is so prevalent today that the average American has 1,000 times more lead in his or her body than did the Anasazi Indians who lived in Arizona about A.D. 1000, according to *Science News*. It's been estimated that from the residue of lead still present in food, water and dust in the air, this same average American is walking around with a blood-lead level of about five micrograms of lead per deciliter of blood, or 5µg/dl. Translated, that amounts to five millionths of a gram of lead per about 1/5 of a pint of blood.

On the surface, these numbers by themselves don't mean a whole lot. But when measured against numbers that mean lead poisoning, they make frightening sense. Given that the average American adult has a blood-lead level of 5µg/dl, the fact that the average child can experience harmful effects at levels as low as 10 µg/dl is a chilling thought. Severe lead poisoning in children occurs at levels between 60-80 µg/dl. All it takes to reach that level is for a child to ingest one milligram of dust from aging lead paint on the walls of his or her home each day during childhood. A milligram is the size of a sugar granule. For children who live in older houses owned by unsuspecting parents, it's as easy as breathing in and out. Lead paint deteriorates over time and eventually turns to dust in the air. The amount of dust floating around during a remodeling job on an old brownstone or farmhouse is multiplied many times. A young couple's dream house, stripped and renovated today, could send their child to the hospital tomorrow.

The long list of harmful effects of lead in children and fetuses includes mental retardation, learning disabilities, a decrease in attention span and hearing ability, anemia, and peripheral and central nervous system dysfunction. At blood-lead levels higher than 80 µg/dl, a child can experience coma, convulsions and death. The *New England Journal of Medicine* states that afflicted children probably never fully recover from early exposures to lead. In the lead poisoning scenario, children are most at risk, but grown ups have plenty to worry about, too.

Adults can suffer elevated blood pressure, increased risk of heart disease, memory loss, headaches and abdominal pain.

Lead is a clever element. Excelling in the art of disguise, it hides in the body, camouflaging itself as calcium and thereby escapes rejection. The body "thinks" lead is calcium and stores it in the bones, where it is significantly less toxic than in other parts of the system. For a while, that is. Then, whenever the body doesn't get enough outside sources of calcium, it draws calcium from the bones and lead goes along for the ride to the vital organs where it does its damage. The reason lead is so destructive to children is that a child's underdeveloped body cannot yet store lead in the bones, so lead travels directly to the vital organs. Children also absorb far more of the lead they're exposed to than an adult would. Alarming news, indeed. But how does all this affect Marty Stouffer the hunter?

In 1991, a ban on the lead shot in all shotguns used for waterfowl hunting went into effect throughout the entire United States. Non-toxic ammunition, which at present is limited to steel shot, is now required. While this is a positive move towards ending lead poisoning in our waterfowl populations, Stouffer says the range of affected species far exceeds that of our beloved Ducks and Geese. Shooters are still allowed to use lead shot for target purposes and for hunting every type of game except waterfowl. For a variety of reasons, Stouffer wants to see the usage of all lead shot banned.

In the realm of firearms, there are different ammunition materials for different purposes. Rifles and pistols fire one solid bullet. But shotguns, also called scatterguns, have literally hundreds of grape-seed sized pellets which are blasted out in a pattern several feet across. While it is virtually impossible to shoot a flying bird with one rifle bullet, it is relatively easy to hit one with several hundred small projectiles fired simultaneously. But all those little pellets have caused one big problem.

For more than one hundred years, the harmful effects of lead on Ducks and Geese as a result of lead ammunition have been noted. In 1874 a health officer at Stephenson Lake in Texas determined that the waterfowl there were dying from lead poisoning after ingesting lead shot. But it wasn't until 1991 that lead was finally outlawed for use in hunting waterfowl. Up until then, the U.S. Fish and Wildlife Service estimates that 2.4 million Ducks and Geese died each year from accidental ingestion of spent shotgun pellets dabbled up in shallow marshes. Waterfowl commonly mistake the small lead pellets for seeds, mollusks and the grit they need in their digestive systems. What they don't need is lead mixed in with their food, causing them to be slowly poisoned.

A lead poisoned bird gradually weakens, its muscles waste away, its vision and hearing become impaired, it loses the ability to fly, and if it doesn't die from the lead itself, the slow moving bird becomes a prime target for hungry predators--predators like Bald Eagles that feed on crippled Ducks and Geese. In 1984 the third most common cause of Bald Eagle deaths in the U.S. was secondary lead poisoning.

If the slow and cruel deaths of nearly two and a half million waterfowl each year didn't get the message across, the news about Bald Eagle deaths did. In 1991, twenty years after the International Association of Game, Fish and Conservation Commissioners first requested the

switch, the U.S. government finally imposed the steel shot law for waterfowl. Stouffer sees the change as an initial step in the right direction, but thinks the problem flies farther than a few million birds. "One lead pellet lying in a field will stay in that field, if not forever, at least for the next couple hundred years. It's commendable that we've reduced the output of lead, but unbelievable that we still allow it at all. Hunters are still distributing lead into rural areas where animals and maybe even children can get to it. How can we possibly justify the continued spraying of an estimated six million pounds of tiny lead shot into our environment each year?" Stouffer asks.

Having said all that, Stouffer wants to know, "What are we waiting for? The stuff is poisonous and the more we look into the problem, the more widespread it shows itself to be." Indeed, lead poisoning is known to kill Ring-necked Pheasants, Bobwhite Quail, Scaled Quail, Mourning Doves, California Condors, Loons, Kestrels and Whooping Cranes. It's the most frequently diagnosed toxicological problem in veterinary medicine. Even vegetation is affected, since lead inhibits photosynthesis and reduces plant growth.

Lead is virtually indestructible. As with most pollutants, there is no easy way to get rid of it once it's mined and exists above ground. "Much lead is recycled and the remainder is shovelled into landfills. But recycled into what? More and different lead products, that's what. We can't destroy the stuff. All we can do is stop mining it from its natural underground sources and stop spewing it into the environment. And we can start right now by eliminating it from our ammunition," declares Stouffer.

The media in the hunting community has given the lead issue much attention lately. But Stouffer thinks their focus is still too narrow. "What the sporting literature is saying is 'Lead is bad for waterfowl. Here's why and here are some tips for switching to steel shot.' What they should be saying is 'Lead is bad for waterfowl and upland birds and our environment and all hunters and their families.'" Yes, lead is even potentially dangerous for human hunters and their families, especially their children. The danger exists as long as it's possible for a family member feasting on roast Pheasant during a Sunday dinner after the hunt to accidentally ingest one lead pellet. Likely? No. But possible? Yes. Most hunters already know to avoid eating the giblets from waterfowl, since that is where lead collects. But are they equally as careful when eating other game?

It's unlikely that a hunter would be poisoned from his dinner, it's not so unlikely that every time he shoots, he breathes in lead dust generated from the blast. According to *Science News*, "The microscopic shearing of lead projectiles as they travel down gun barrels sends lead particles into the air and into shooters' lungs." A toxicologist with the Agency for Toxic Substances Disease Registry, a branch of the Centers for Disease Control in Atlanta, has stated that the impact of lead in the body is stronger through the lungs than the intestines. Given an equal dose through both, he says, "You'll get a heavier dose through the lungs." The dust generated from the blast that doesn't get breathed in by the hunter and doesn't get blown away by the wind, settles on the

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hunter's clothes which he brings into his house and to his family. doesn't get breathed in by the hunter and doesn't get blown away by the wind, settles on the hunter's clothes which he brings into his house and to his family.

Whether hunters already know this information or not, Stouffer anticipates opposition to his idea of replacing all lead shot with steel shot. There was plenty of it when the limited switch to steel for waterfowl came about. Hunters were concerned that steel shot would not kill as cleanly and that the much harder steel pellets would damage the barrels of their guns. In particular, they feared for the older shotguns that have long been part of the hunting tradition. Given these perceptions, resistance is understandable. However, the facts do not support their concerns. "Of course, steel shot is harder and would wear out the barrel in any shotgun quicker than would lead shot. But, this is theory based on hundreds of thousands or millions of

shots fired and no one in the real world would ever be posed with this as a problem on a practical basis," Stouffer asserts.

As for damage to gun barrels, Ed Gray, editor and publisher of *Gray's Sporting Journal* states, "I think if someone had actually damaged one of those guns, we would have seen a picture of it in a magazine years ago. If there had been just one barrel somewhere, you know we would have seen it."

It is true that caution suggests very old guns be checked by a qualified gunsmith. Stouffer wants to impress upon hunters that their worries can be alleviated with minor shotgun modifications. On such older shotguns, the choke must be loosened since steel will hit the choke harder than lead, and cause damage. Even so, some still worry about their beloved 100 year-old shotgun barrels and continue to search for a non-toxic alternative which is both as heavy and as soft as lead. It's a tall order, but there is a glimmer of hope. One potential non-toxic alternative is a tungsten-polymer shot which combines the very dense metal with a plastic compound. Experimentation and initial tests cast serious doubt on its efficiency or economy. For now, steel shot remains the only viable alternative.

As for the argument against steel shot, that it just doesn't compare to lead in performance, much of this view is based on prejudice and poorly designed tests that gave lead an unfair advantage in early government testing. The results have turned some hunters against steel ever since. True, most experts admit steel isn't as effective when shot at long ranges because it's 30% lighter than lead and packs less velocity and energy over long distances. But with larger pellets and a little practice, hunters can easily adjust their shooting style and their attitude to allow for the slight differences in the performance of steel. "If you shoot steel the same way you shoot lead, you'll have trouble hitting your target," says Mike Stone, Hunter Education Coordinator for the Colorado Division of Wildlife. Stone and other ballistics experts recommend dropping the normal shot size and type by two sizes, which means going from #8 to #6 or from #4 to #2. Stouffer has long ago made the change and is, in fact, happier shooting steel. "Because of the increased velocity at short ranges, I actually shoot better with steel, both at the target range and in the field," he says.

The battle has raged for years between environmentalists and hunters who thought the switch to steel was an underhanded threat to take away their right to bear arms at all. Though Stouffer is anti-lead, he is not, as NRA president James Reinke wrote in *American Rifleman*, one of the "anti-gunners, attacking lead shot under the guise of environmentalism." Reinke also called the switch to steel "a thinly disguised attack on firearms freedoms." On the contrary, Stouffer is a responsible sportsman who, like all ethical hunters, is concerned with the welfare of his quarry

and our environment, and places these far ahead of his own convenience and amusement. As far as he's concerned, "The time has come for responsible sportsmen and target shooters to make the change to non-toxic ammunition, and we should do it before someone tells us we have to."

Hunters can now look to other countries for examples in taking the initiative. According to preliminary developments last June at the International Symposium on Lead Poisoning of Migratory Birds, the countries of Finland, Sweden and Switzerland are soon planning to make the switch to non-toxic shot a voluntary one, without any government regulation. Denmark and the Netherlands will have regulated bans on lead shot for all hunting by 1993 and like the U.S., Norway has banned lead shot for all waterfowl hunting in 1991. Australia and Canada already have non-toxic shot requirements in several areas where serious lead poisoning problems exist. And, to further make hunters financially aware of the problem, Denmark and Norway will soon begin placing an environmental tax on lead shot shells, making lead ammunition significantly more expensive than steel.

In Britain, though lead shot is currently legal for all types of hunting, the sale and importation of lead fishing weights were outlawed in 1987. Waterfowl hunting is very limited in Britain, occurring mostly on private reserves. Therefore, they haven't had the volume of waterfowl mortality that the U.S. has experienced. But what they have experienced is a high rate of Mute Swan mortality from Swans that live in heavily fished areas. Since the Mute Swan is practically considered Britain's national bird, they acted quickly to outlaw lead fishing weights, an act very similar to the U.S. reaction when it was discovered that Bald Eagles were dying. Unfortunately, the problem wasn't rectified until both species began to suffer.

Similarly, Yellowstone National Park has experienced lead poisoning problems with Trumpeter Swans. After researchers linked deaths of the rare birds on the Henry's Fork River outside the park to poisoning from lead fishing jigs and weights, Yellowstone banned their use in the national park waters in 1991. They plan to outlaw all lead fishing equipment in Yellowstone Park by 1994.

Judging from the past, it seems that a total ban of lead for hunting, fishing and target shooting purposes is miles of red tape and years of bureaucracy away. But there is hope. Certain areas of the U.S. have, like Yellowstone, chosen to outlaw the deadly poison on their own initiative, a good sign that there is some momentum for the movement. Forty-eight National Wildlife Refuges in twelve states already have non-toxic shot requirements to hunt bird species other than waterfowl. Additionally, the NWR in Arapaho, Colorado has a zone in which non-toxic shot is required for all shotgun hunting of all game. A small step in the right direction, but a step nonetheless.

Hopefully, those millions of hunters required to make the switch this year will see how easy it really is and will realize that though replacing lead shot with a non-toxic alternative may be mildly inconvenient, it's a small price to pay for the welfare of our wildlife, environment and children, not to mention ourselves.