

Bald eagles are being poisoned by lead ammo in hunted animals. Could copper bullets be the fix?

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Something was just not right.

High up in a tree in the dark of night in Gloucester County's South Harrison Township, an American bald eagle had been flapping its wings for hours, with no sign of taking flight.

Alerted to the great creature's obvious distress, county animal control officers sought the help of local fire companies. They came with ladder trucks, aiming to capture the bird. Any healthy eagle, even an injured one, would have soared away. But not this fellow, tethered, it seemed, by some invisible trouble.

So he was gathered up and taken to Tri-State Bird Rescue & Research, a Delaware avian rehabilitation center that treats many eagles. What Tri-State caregivers found was disheartening, but not surprising.

The eagle's strange behavior that night in December wasn't due to a damaged wing or other injury. The eagle had [lead poisoning](#).

"We see it all the time," said Lisa Smith, Tri-State executive director. "It's very sad, and it's frustrating because it's preventable."

Wildlife rehabilitation leaders like Smith, as well as animal biologists and other experts, say bald eagles—until recently an endangered species—have been getting sick and even dying after ingesting lead from the remains of other animals shot with lead bullets. It's similar to the neurological damage suffered by children who consume lead-based paint and other lead sources.

But now there is new evidence that lead poisoning isn't just harming individual animals: It is cutting into the hard-won gains that have been made to save this symbol of American strength and freedom.

A team of researchers from Cornell University has found that the population rebound of our National Bird—a conservation success story

decades in the making—is being stunted by lead poisoning from gunshot ammunition.

Published in the *Journal of Wildlife Management*, the Cornell study states that lead ingestion by bald eagles has reduced their population growth on average each year by more than 6% for male birds and about 4% for females. That was for the nearly 30 years viewed by the study. The researchers used computer modeling along with real-life data from seven Northeastern states, including New Jersey.

But the study, although it addresses hunting practices, isn't anti-hunting, say its authors.

"Hopefully this report will add information that compels hunters, as conservationists, to think about their ammunition choices," said Krysten L. Schuler, senior study author and assistant research professor in Cornell's department of public and ecosystem health.

"There are non-lead alternatives out there for ammunition, which would not poison eagles and other scavengers that might feed on parts left behind by hunters," said Schuler, herself a hunter who uses copper ammunition rather than lead. "It's an outreach and education campaign for people who hunt to know this effect is real, and they can make changes to the ammunition they use that will really help out eagles and other animals."

The Cornell researchers said bald eagles and other animals that scavenge for food often ingest lead by feeding on the remains left behind when hunters field dress their game. Biologists say very small amounts of lead are enough to cause an eagle significant harm, even death. In other instances, eagles may get poisoned when they feed on so-called nuisance animals like groundhogs or raccoons shot by homeowners with lead ammunition.

Some hunters, skeptical about lead's overall population impact, say alternative ammunition is more costly and can be hard to access. But Schuler said there are options.

"There are other things hunters can do," she said. "They can remove those organs and not leave them out in the field if they're shooting with lead. It's not an all-or-nothing deal."

There's no doubt that the American bald eagle has made a robust return. Thanks in part to the banning of the pesticide DDT in 1972, this once-endangered species has made gradual but dramatic strides.

Between 2009 and 2021 alone, their numbers quadrupled to more than 316,000 birds, according to federal figures.

Many factors can threaten eagles' survival, the greatest being habitat loss and disturbance by humans, according to the most recent New Jersey Bald Eagle Project report. Other causes of eagle deaths noted in the report were electrocution from power lines, getting hit by cars or trains, fights with other eagles, disease, as well as toxins like lead.

An eagle with severe lead poisoning is a terrible sight, say wildlife rehabilitators. The birds go into seizures. Some can't keep their heads up. They may lose other bodily coordination and control. They may not be able to fly, let alone hunt. These birds may die or have to be euthanized.

But even lower levels of lead can be the underlying factor in an eagle injury or even death.

"Every eagle that comes into a rehab center gets tested for lead. A lot of them are going to have that sublethal level [of lead]. But they're impaired; lead is a neurotoxin," said Kathy Clark, supervising biologist with New Jersey's Endangered and Non-Game Species Program. "To be

impaired for a wild animal is really going to lessen their survival."

Clark said her department is currently analyzing more than 100 eagle liver samples collected over about 15 years for lead, rodenticides and toxins. When that study is completed this year, she said, they may have a better idea of the extent of exposure to these hazardous substances.

People who run programs that care for injured or ailing eagles say they already know lead is behind many of the problems they see.

"We're seeing eagles come in with all kinds of problems, but almost all of them come in with an unhealthy level of lead, even if the issue they were rescued for didn't appear to be lead," said Peggy Sue Hentz, founder of Red Creek Wildlife Center in Schuylkill Haven. "It goes back to the fact that the eagles were in a diminished condition.

"You have the toxic effect of the lead, and you have a bird in a weakened condition unable to take care of itself like it should," Hentz said. "It ends up being singled out by healthy eagles that attack it, or it ends up scavenging on roadways and getting hit by cars."

That was basically the story behind a badly injured female bald eagle brought to Red Creek early last year. Instead of nesting as a healthy female eagle would have been doing that time of year, this bird was hopping around on the ground of a farmer's field in Turbotville, unable to fly.

When she was brought to Red Creek, an examination revealed badly torn ligaments in one of her wings, punctures all over her body, likely from a fight with another eagle, and a moderate-to-severe blood lead level.

Sometimes, blood poisoning is the only thing to blame for a bird's impaired state. That was the case with the male bald eagle from South

Harrison that Tri-State was able to treat in December and release back to the wild.

But sometimes, said Tri-State director Smith, the neurological damage done by the lead is just too great. The birds are put down.

"When it's really high, we learn over time when they can recover, and when they can't," Smith said. "It's hard, but if they're suffering, we need to relieve that suffering."

Many hunters, aware of the damage lead can do, have changed their ammunition practices and have encouraged others to do the same. The website HuntingWithNonLead.org, for example, is the creation of hunters and wildlife biologists. Lead ammunition restrictions in some states have also come about with hunter support.

The authors of the Cornell study are hoping their findings about lead's impact on eagles' comeback will strike a chord.

"It's not about trying to take anyone's guns away," said Schuler. "We wanted sound science on what this was doing to populations. Hunters are the original conservationists. From the research we've done, a lot of hunters aren't really aware of this issue."

Mark Catalano is a county coordinator with Wildlife in Need, a Pennsylvania nonprofit that captures and delivers injured and orphaned animals to wildlife rehabilitators. He has seen the effects of lead on [bald eagles](#).

"When it comes to lead poisoning, it's a horrible way for a bird to die," he said. "You see this majestic bird that can't even take care of itself."

That's why the happy endings are so memorable, like the female eagle

with the badly injured wing that the Red Creek Wildlife Center nursed back to health last year.

It took two months of care and two courses of medication that cost more than \$1,000 donated by animal lovers to remove the lead from her blood. But finally last March, Catalano took the eagle back to the same field she was rescued from.

"It was a perfect release," Catalano said.

Once he opened its carrying case, the [eagle](#) jumped out, took a quick look around, and then the big bird was off.

"It was like, 'I know exactly where I am and where I'm going,'" Catalano said. "It was an awesome feeling."

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