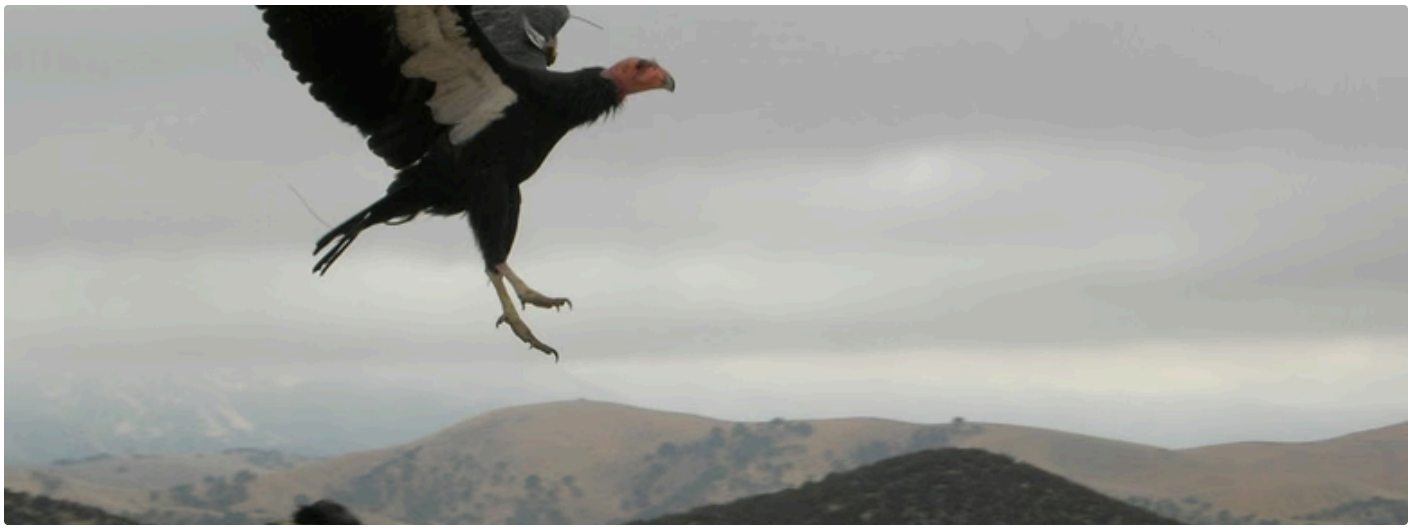
SCHOLAR BLOG

Saving species with science – reducing lead poisoning in albatross and condors

Myra Finkelstein, Ph.D.



California condors. Photo: Don Smith

I was shocked when I first walked around Sand Island, Midway Atoll, and saw Laysan albatross chicks with wings dragging on the ground. Called 'droopwing,' this condition is a fatal result of lead poisoning. These chicks would never be able to fly, so when their parents stopped feeding them at the end of the breeding season, they would starve to death. I had read a paper from several years prior that documented the severe lead poisoning of Laysan

from the old military structures, and the other quantified the population-level impact of these deaths [1,2]. I worked with the American Bird Conservancy to advocate for cleaning up the military's mess. I met with the head of refuges for the U.S. Fish and Wildlife Service and with the military's lawyers at the Pentagon. I talked to non-profit organizations, government officials, and anyone that would listen, asking for help to fix this issue and save the Laysan albatross chicks from such horrific deaths. Eventually my friend who worked for the U.S. Fish and Wildlife Service and had witnessed the dying chicks submitted a petition to designate Midway a Superfund site so that funding would be available to clean up the paint. After almost 10 years of working on this issue, the administration changed, President Obama was elected, and Midway was designated a Superfund site! Today the lead-based paint has been remediated and those 10,000 or so chicks each year no longer suffer from the lethal effects of lead.

Fast forward through my conservation biology post-doc to working with my former Ph.D. advisor, Donald Smith, on lead poisoning in California condors. California condors are critically endangered and I was (again) shocked to discover that condors continued to be lead-poisoned from feeding on the remains of animals shot with lead-based ammunition. A few years earlier, Don and his graduate student Molly Church had published a paper using stable lead isotopic compositions to demonstrate that the principal source of lead to condors was lead-based ammunition. And countless other scientific papers illustrated that lead bullets were poisoning our nation's scavengers. I was a little less naïve, but still dismayed to realize that people prioritized using a familiar type of bullet over the life of a condor or an eagle, or the health of their family. Because one thing is without question – lead is deadly and we have known it for centuries. Lead damages your brain. Lead damages your kidneys. Lead damages your reproductive system. Indeed, as Orfila, known as the 'Father of Toxicology' summarized in 1817: "... we could not but regard the poisoning by lead as the most important to be known of all those that have been treated of, up to the present time."



Laysan albatross chick with droopwing. Photo: Myra Finkelstein

But we still choose to use lead bullets to hunt, despite the fact that they can poison our families who eat the harvested meat and wildlife who scavenge carcasses. So, Don Smith and I worked with the California Recovery Team to identify the gaps in knowledge that could help them save condors. We expanded Don and Molly's prior work and confirmed that condors were being lead-poisoned from ingesting spent lead ammunition while feeding on carcasses contaminated with lead fragments. We also showed that lead poisoning was preventing condor recovery. We published these findings in a prestigious scientific journal, Proceedings of the National Academy of Sciences [3]. But I also realized that few of the people making the management or legislative decisions read scientific papers (I admit, they are a bit boring and complicated!). So, Don and I spearheaded a Consensus Statement of Scientists (Health Risks from Lead-Based Ammunition in the Environment) [4]. I testified about our research on lead and condors in front of the California Senate as the legislature was considering a bill on the restriction of the use of lead-based ammunition for hunting in California. California is now the only state in the country to ban the use of lead-based ammunition for hunting. Although condors continue to be lead-poisoned in California (lead

ammunition remains available to purchase despite being prohibited for hunting), I recently published a paper with my collaborator, Vickie Bakker, a quantitative ecologist, showing that the lead ban in California IS helping. Using complex models and very large datasets, we showed that without the ban, the lead poisoning of condors would be much worse [5].

Lead ammunition is still widely used across the country and the world – leaving lead-poisoned animals in its wake. And I continue to work with others, such as Don and Vickie, to generate science to inform conservation and management related to lead poisoning of scavengers across the United States (bald eagles, golden eagles) and abroad (kea, a New Zealand parrot, and Tasmanian devils).

My hope is that, similar to how we transitioned to a safer type of gasoline for our cars and a safer paint for our walls, we will embrace lead-free bullets and stop manufacturing or shooting lead-based ammunition. It is a killer.

SOURCES & REFERENCES



ABOUT THE AUTHOR

Myra Finkelstein, Ph.D.

Dr. Myra Finkelstein is an Adjunct Professor in the Microbiology and Environmental Toxicology Department at the University of California Santa Cruz with over 25 years of experience generating scientific evidence that results in tangible benefits to wildlife health. For example, Dr Finkelstein's research demonstrated that widespread lead poisoning of Laysan albatross chicks was caused by ingestion of lead-based paint, prompting a major remediation of buildings and contaminated soil on Midway Atoll. Additionally, Dr. Finkelstein and her colleagues identified lead-based ammunition as the principal source of lead poisoning in California condors and lead poisoning as the primary impediment to condor recovery - information that was instrumental in the passage of California AB711, the first state-wide law in the nation to ban the use of lead-based ammunition for hunting.

← All articles



© 2026 All Life Institute. All rights reserved.