

Lead Hazard Reduction Timeline for Wildlife and Humans

- 2000 B.C. Environmental problems from lead mines first documented
- 400 B.C. Hippocrates accurately describes the symptoms of lead poisoning
- 476 A.D. Roman Empire collapses; lead use in water pipes, cosmetics, pottery and food suspected as contributing factor, despite Roman knowledge of health hazards
- 1500s Lead used as poison for assassinations in renaissance Europe
- 1621 First lead mining in New World colonies, in Virginia
- 1786 Ben Franklin deplors that nothing has been done to protect people from the "mischievous effect" of lead poisoning
- 1842 Lead poisoning first identified as a disease in wild birds
- 1870s First reports of incidents of lead poisoning of waterfowl at hunting sites
- 1890s First documented mortality of waterfowl due to lead shot, information on lead hazards to wildlife published in scientific literature and the press
- 1920s Oil companies began adding tetraethyl lead to gasoline
- 1922 League of Nations bans interior lead paints
- 1930 Leading scientists report lead poisoning in waterfowl to be widespread
- 1959 Major scientific study identifies spent lead shot as source of exposure and widespread hazard for waterfowl
- 1970 Clean Air Act passes, giving the Environmental Protection Agency a mandate to identify, and set standards for, harmful pollutants, including lead
- 1970s Concerns about lead toxicity from fishing weights for water birds published
- 1972 First nontoxic shot use requirements for limited areas in United States
- 1973 EPA initiates a phasedown of lead levels in motor vehicle gasoline to reduce health risks from lead emissions
- 1980 United States using 1.3 million tons of lead per year, or 5,221 grams of lead per American per annum, a rate of dependence on lead nearly 10 times greater than ancient Romans
- 1980 Amount of lead in gas drops 50 percent from previous decade; average human blood-lead levels in United States correspondingly drop 50 percent, levels in children drop 37 percent
- 1980s Numerous secondary lead poisoning cases documented in bald eagles

1985	Last wild California condors brought into captivity for emergency-breeding program due to high risks birds face in the wild, particularly from lead poisoning
1986	Federal regulations initiated to phase out lead shot for waterfowl hunting
1986	Safe Drinking Water Act amended to require lead-free plumbing; EPA sets standards limiting lead concentrations in public water systems and pipes
1986	Britain bans use of most lead fishing sinkers to protect swans
1990	Clean Air Act amended to prohibit leaded gasoline in motor vehicles by 1995
1991	Lead shot banned for all waterfowl hunting in entire United States
1991	EPA issues regulation under the Safe Drinking Water Act to limit the amount of lead in drinking water
1992	Studies published on hazards of lead fishing sinkers to loons
1992	Lead Exposure Reduction measures pass Congress, identifying dangerous levels of lead, publishing lead hazard information, and regulating residential renovation activities and federal facilities to abate and control lead paint
1994	EPA proposes nationwide ban on manufacture, import, processing, and distribution of lead fishing sinkers of a size hazardous to waterfowl — but the regulations are never ratified
1995	EPA issues regulations banning all lead in motor vehicle gasoline
1995	The use of lead solder in food cans is banned under the Federal Food, Drug, and Cosmetic Act
1995	Percentage of U.S. children with elevated blood-lead levels has dropped from 88.2 percent in the 1970s to 4.4 percent by 1995
1996	Food and Drug Administration bans the use of lead foil caps on wine bottles
1997	Canada implements partial ban on small-sized lead fishing sinkers in national parks and national wildlife areas
1999	Canada issues ban on lead shot for hunting migratory game birds
1999	Fish and Wildlife Service proposes to expand lead-free fishing areas on national wildlife reserves, wilderness areas, and waterfowl sites — but never issues a final decision
2000	74 nations have implemented some sort of regulations on the use of lead shot, and 37 more nations are preparing legislation; only four countries have applied restrictions to the sale and use of lead fishing sinkers
2000	Scientific reports show significant reduction in lead exposure to waterfowl after implementation of 1991 lead shot ban

2000	Lead air pollution shown to have decreased 98 percent since 1970
2004	Conservation groups petition California to require nonlead ammunition for hunting in condor habitat
2006	Lawsuit filed against California for allowing lead ammunition to continue to poison California condors
2006	95 percent of all condors in Arizona found to have lead exposure; 70 percent of the Arizona flock must be taken into captivity and treated for lead poisoning
2007	California legislature approves the Ridley-Tree Condor Preservation Act, requiring hunters to use nonlead ammunition for hunting big game and coyotes within the California condor's range in central and Southern California
2007	The California Fish and Game Commission approves additional hunting regulations that expand the nonlead bullet requirements to include hunting nongame birds and mammals within the condor range
2007	Major recall of toys from China containing lead
2007	Venison donated by hunters to food centers in North Dakota and Minnesota found to have high levels of lead bullet fragments, pose health risk to humans consuming venison
2007	Number of condor deaths in California confirmed or linked to lead poisoning rises to 15 birds
2008	Several studies demonstrate potential risks to humans who consume game meat harvested with lead rifle ammunition
2008	The California Fish and Game Commission extends protections of the Ridley-Tree Condor Conservation Act to depredation hunting, the shooting of animals deemed a nuisance or threat
2009	Lawsuit filed to force management plans on public lands in Arizona to include actions to protect Grand Canyon condors from toxic lead
2009	National Park Service announces plan to eliminate use of lead ammunition and lead fishing tackle in national parks by 2010
2009	The EPA grants citizen petition to ban lead automobile wheel balancing weights — regulations requiring nonlead alternatives to be issued in 2011
2010	California passes legislation reducing amount of lead that is permissible in plumbing products used to convey or dispense drinking water
2010	Confirmed lead poisoning death of 15 th endangered condor in Arizona since reintroduction program began in 1996, with many more deaths suspected to be from spent lead ammunition
2010	Conservation groups petition the EPA under the Toxic Substances Control Act to ban use of all lead ammunition and all lead fishing tackle nationwide; more than 120 organizations in 30

states — representing birders, conservationists, hunters, scientists, veterinarians, American Indians and public employees — weigh in supporting a ban, but the EPA refuses to review the petition

- 2010 The U.S. Fish and Wildlife Service bans the use of lead ammunition for hunting nuisance birds
- 2011 The Fish and Wildlife Service announces it will begin cleaning up toxic lead-based paint chips from decaying military buildings at the former naval base on Midway Atoll, responsible for killing up to 10,000 Laysan albatross chicks each year