

BILL ANALYSIS

ASSEMBLY THIRD READING
AB 711 (Rendon)
As Amended April 17, 2013
Majority vote

WATER, PARKS & WILDLIFE 9-5
APPROPRIATIONS 11-5

Ayes: Rendon, Blumenfield, Bocanegra, Fong, Frazier, Gatto, Gomez, Yamada, Williams	Ayes: Gatto, Bocanegra, Bradford, Ian Calderon, Campos, Gomez, Hall, Ammiano, Pan, Quirk, Weber
Nays: Bigelow, Allen, Dahle, Beth Gaines, Patterson	Nays: Harkey, Bigelow, Donnelly, Linder, Wagner

SUMMARY : Requires the use of nonlead ammunition for the taking of wildlife in California. Specifically, this bill :

- 1)Requires use of nonlead ammunition for the taking of all wildlife in California, including game mammals, game birds, nongame birds, and nongame mammals, with any firearm.
- 2)Requires the Fish and Game Commission (FGC), by July 1, 2014, to certify, by regulation, nonlead ammunition for these purposes. Defines nonlead ammunition as including only ammunition in which there is no lead content. Requires FGC to also adopt regulations by July 1, 2014, that phase in the nonlead ammunition requirements to be fully implemented statewide by no later than July 1, 2016. Provides that the existing restrictions on use of lead ammunition in California condor habitat shall continue in effect until the statewide nonlead ammunition requirements are implemented.
- 3)Expands the FGC's existing authority to establish a process to provide hunters with nonlead ammunition at no or reduced charge within certain hunting zones, to instead apply statewide.
- 4)States legislative findings and declarations regarding the threats to public health and wildlife posed by lead in the

environment, and the availability of nonlead ammunition alternatives.

EXISTING LAW :

- 1)Requires the use of nonlead centerfire rifle and pistol ammunition when taking big game or coyotes in specified deer hunting zones known to be California Condor range.
- 2)Requires the FGC to certify nonlead ammunition by regulation and defines nonlead ammunition to include only centerfire rifle and pistol ammunition in which there is no lead content. Requires the FGC to annually update the list of certified nonlead ammunition.
- 3)Authorizes the FGC, to the extent funding is available, to establish a process to provide hunters within specified deer hunting zones known to be California condor habitat with nonlead ammunition at no or reduced charge.
- 4)Prohibits the use of lead ammunition to hunt waterfowl (United States Fish and Wildlife Service (USFWS) regulation).

FISCAL EFFECT : According to the Assembly Appropriations Committee, minor costs, probably less than \$50,000 for the Department of Fish and Wildlife (DFW) to develop regulations to certify ammunition as nonlead and distribute educational materials. Extending current nonlead enforcement would result in minor, if any, additional costs for law enforcement by DFW.

COMMENTS : This bill requires the use of nonlead ammunition for the hunting of any wildlife in California to reduce the risk of lead exposure to wildlife and humans. California required the use of nonlead ammunition to hunt big game and coyotes in areas of the state identified as California condor range in 2007. That requirement was enacted in response to evidence showing lead poisoning is a leading cause of mortality in condors, a critically endangered species. Condors are scavengers that feed primarily on dead carrion which is a source of ingested lead ammunition fragments. The Assembly Water, Parks & Wildlife Committee analysis on AB 821 (Nava) of 2007 contains an overview of the scientific studies documenting the impacts of lead ammunition on California condors. In addition to condors, scientific studies have documented deaths and other adverse health effects of lead exposure on other wildlife species,

including avian predators and scavengers such as bald eagles, golden eagles, turkey vultures, red-tailed hawks and ravens, as well as numerous upland game bird species, such as mourning doves, ring-necked pheasants, and wild turkeys. The USFWS adopted a nationwide ban on the use of lead ammunition for hunting waterfowl in 1991 after studies showed waterfowl can ingest expended lead shot and die or suffer other debilitating effects from lead exposure.

The author of this bill notes 50 years of research have shown lead in the environment poses an ongoing threat to public health and California's wildlife species, including federally listed threatened and endangered species. Lead is recognized by the Centers for Disease Control (CDC) and the United States Environmental Protection Agency (EPA) as toxic to both humans and animals. Lead is a potent neurotoxin and, according to the CDC, there is no identified safe exposure limit for humans. Because lead interferes with the nervous system it is particularly toxic to children, causing potentially permanent learning and behavior disorders, which is also why it has been outlawed in paint, gasoline, toys, etc. However, lead continues to persist in the environment due to its continued use in lead ammunition. Lead ammunition fragments and lead shot in felled wildlife can be consumed by other animals and passed along the food chain. Dairy and beef cattle have also developed lead poisoning after feeding in areas where spent lead ammunition has accumulated. The United States Geological Service estimates upland hunting fields may have as much as 400,000 shot per acre in some areas. While the state and federal government have adopted some successful restrictions on the use of lead ammunition for big game hunting in the California condor range and for waterfowl hunting, because these restrictions only apply in certain areas or to particular species or types of wildlife, many species of wildlife remain threatened by use of lead ammunition.

According to the USFWS, a study conducted in the mid-1990s suggests the nationwide ban on the use of lead shot for waterfowl hunting has had remarkable success. Six years after the ban, researchers estimated a 64% reduction in lead poisoning deaths of surveyed mallard ducks and a 78% decline in lead pellet ingestion. The study concluded the restrictions on lead shot have prevented the deaths of thousands of waterfowl. Two recent studies by the University of California at Davis also

found evidence that the ban on use of lead ammunition for hunting big game in the California condor range may have had an ancillary benefit for golden eagles and turkey vultures. The studies found a correlation between the condor lead ban and blood lead levels in turkey vultures and golden eagles, which have declined since the condor lead ban took effect.

A consensus statement authored by 30 scientists with expertise in lead and environmental health was published on March 23, 2013. The consensus statement endorses the overwhelming scientific evidence on the toxic effects of lead on human and wildlife health, and urges support for reduction and eventual elimination of lead released to the environment through the discharge of lead-based ammunition, in order to protect human and environmental health. Authors of the consensus statement include scientists from such institutions as the University of California (at Davis, Berkeley and Santa Cruz), Harvard Medical School, Rutgers University, John Hopkins University, Cornell University, and the University of Cambridge.

According to the Association of Avian Veterinarians (Association), lead is a potent toxin to wild birds that can have individual and population level effects. The Association notes mortality and morbidity from exposure to lead ammunition has been documented for decades in water birds, upland game birds, scavengers and avian predators. At toxic levels, lead causes lethargy, gastrointestinal stasis, anorexia, vomiting, diarrhea, anemia, disturbances of cellular metabolic functions, and neurologic injury leading to blindness, seizures, weakness and death. At lower levels, lead exposure causes a number of sub-lethal effects such as neurological damage, tissue and organ damage, and reproductive impairment. Recent studies suggest over one-quarter of bald eagles admitted to rehabilitation facilities have elevated blood lead levels. Current data for raptors and avian scavengers demonstrate positive correlations of lead exposure during hunting seasons.

The public health effects of lead, which can be life threatening at high levels, can also be damaging at low exposure levels. Human health effects from lead exposure include but are not limited to, impaired cognition, Attention Deficit Disorder, psychiatric disorders, learning disabilities, internal organ damage, increased blood pressure, hypertension, and arrhythmia. An article published in Scientific American in February 2013

notes studies show lead exposure may also be a factor in elderly dementia. Pregnant women and children are especially sensitive to the effects of lead exposure because the brains of children are still developing. According to the CDC, there is no safe level of lead exposure for children. A number of studies have looked at the potential impacts to humans of ingesting game meat shot with lead ammunition. Increased blood lead levels in humans have been positively correlated with consumption of game meat taken with lead ammunition, particularly in humans who regularly consume game meat. A CDC study conducted in North Dakota and published in Environmental Research in 2009 found people who ate wild game had 30-50% higher blood lead levels in comparison to those who did not consume wild game. A study by the Minnesota Department of Natural Resources determined lead bullet fragments can be present in hunter harvested venison and can become lodged in tissue as far as 14 inches from the wound site. State health and wildlife agencies in North Dakota, Minnesota and Wisconsin have recommended women and children do not eat any game harvested with lead ammunition. Both North Dakota and Minnesota have also sent advisories to food pantries not to distribute or use donated ground venison after lab tests showed contamination with lead fragments.

An argument against nonlead ammunition requirements in the past has been the alleged absence of effective and affordable alternatives. Since the 1991 USFWS ban on use of lead shot for waterfowl hunting, and the enactment of other restrictions on

the use of lead ammunition in California and other states, the availability of alternatives has expanded and prices have become more competitive. The most commonly used alternatives are copper or copper alloy bullets which are designed not to fragment. A recent study published in 2012 in *Ambio*, a journal of the Royal Swedish Academy of Sciences, found that wide product availability, comparable prices and effectiveness of lead-free alternatives now makes phase out of lead ammunition feasible worldwide. The survey found a wide range of lead-free bullet calibers are available in the United States and Europe at comparable prices and ballistic performance. Barnes Bullets LLC in the United States is the world's largest manufacturer of lead-free bullets. Lead-free bullets manufactured by Barnes and other manufacturers are available for a wide selection of hunting cartridges made by 37 different manufacturers. According to the survey, virtually all of the lead-core bullet calibers used for hunting are available in lead-free form, as

are the cartridges into which they are loaded. Online commercial availability has also increased, with 48 different hunting rifle cartridges with lead-free bullets available now from online retailers.

Fears that enactment of the requirement to use lead-free ammunition in the California condor range would lead to a reduction in the number of hunters in California have not materialized. According to data maintained by DFW, hunting tag sales for deer hunting in California since the California condor lead-free requirement took effect in 2008 have not declined. The number of deer tags sold in 2007, prior to the ban, was 26,104, and in 2011 the number sold was 27,453.

Supporters argue over 500 published scientific studies, including numerous peer reviewed studies, document that more than 130 species of wildlife are negatively affected by lead ammunition. Supporters assert this bill will help stop the harm lead ammunition is causing to wildlife, the environment and people. Since viable alternatives to lead ammunition for hunting exist that are competitively priced and effective, supporters assert there is no reason to continue to expose the environment, humans or wildlife to the risks associated with lead ammunition. Supporters also note the ban on use of lead ammunition in the California condor range, while helpful, is not enough, as wildlife and humans continue to be exposed to lead through use of lead ammunition in other parts of California and for forms of hunting other than big game. Supporters also emphasize this bill is supportive of hunting rather than anti-hunting, and will help put hunting on a more long-term sustainable basis by shifting to less environmentally harmful and more effective ammunition that does not leave a toxic footprint.

Opponents assert that there is no conclusive proof lead ammunition is the cause of the decline of the California condor, a scientific consensus is not sufficient, and lead ammunition should not be banned without absolute proof. With regard to studies linking the lead isotopes in lead ammunition to lead found in condors, opponents assert the studies are inconclusive because they did not compare the lead found in condors with the lead isotopes in other items such as car batteries and lead fishing tackle. They also assert copper bullets may be toxic as well and warrant further study. Opponents argue a ban on lead

ammunition will have an adverse business impact on lawful ammunition retailers and gun shows, and could have a negative

impact on DFW and local economies. They also assert research shows lead levels in condors have not significantly changed in two years after lead ammunition was banned in the condor range, and therefore there may be other sources of lead that are contaminating condors. Opponents urge alternatives such as voluntary burying of gut piles by hunters, and argue the FGC rather than the Legislature is the proper forum for consideration of a statewide ban on use of lead ammunition. Opponents also argue there is a lack of effective alternatives for some applications, and fear nonlead ammunition could be banned by the federal Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) as armor piercing ammunition. While the ATF can grant a waiver if the ammunition is primarily intended to be used for sporting purposes such as hunting, the ATF has not yet acted officially to grant the waivers. While the ATF has not actually ruled any existing nonlead hunting ammunition products already in use are illegal, opponents nevertheless assert the uncertainty as to whether a waiver would be granted has a chilling effect on the willingness of manufacturers to invest research into development of more nonlead ammunition alternatives.

Analysis Prepared by : Diane Colborn / W., P. & W. / (916)
319-2096

FN: 0000487