

Western Association of Fish and Wildlife Agencies

Report from WAFWA Lead & Wildlife Ad Hoc Work Group

July 17, 2010

INTRODUCTION

Fish and wildlife agencies are facing the challenge of balancing the known and potential impacts to wildlife from lead in spent ammunition and sport fishing tackle with the public perception of the lead issue. Reports about the effect of lead on wildlife, the environment, and/or human health – whether real or perceived – create social, political and legal pressure to act. Fish and wildlife agencies are often caught between those who think an immediate ban on all lead is necessary and those who believe no problem exists.

In recognition of the sensitive and often controversial nature of this issue, the Western Association of Fish and Wildlife Agencies (WAFWA) formed an ad hoc lead and wildlife work group to develop recommendations to WAFWA. Because of the complexity of this issue and the involvement of multiple disciplines, the chairs of the Wildlife Health, Human Dimensions, Resource Information and Education, Wildlife and Fish Chiefs committees, and the Director of the Washington Department of Fish and Wildlife were appointed to the working group. Oregon Fish and Wildlife Director Roy Elicker was named chair of the work group.

The work group identified a number of factors that should be considered when addressing the issue of lead and wildlife. The group relied upon an extensive and growing body of work documenting the impact of lead on wildlife, human health and the environment. For convenience, this information is paraphrased and a bibliography is attached (Attachment 1).

BACKGROUND

Lead ore has been mined, smelted and used for a wide variety of purposes since the Bronze Age of human civilization, including for fishing sinkers. Lead shot and bullets have been used since the development of gunpowder and firearms in the 14th century. Lead is highly valued for this purpose because of its low cost and desirable physical characteristics. While suitable alternative materials to lead may exist, the costs for raw material and manufacturing are often significantly higher.

Although lead is a naturally occurring metal in the environment, it serves no essential or beneficial cellular or molecular function in biological organisms. Lead is one of the toxic metals and has been documented for centuries as the cause of various ailments. This has resulted in various restrictions on its use and handling, including regulations and prohibitions on leaded gasoline, lead based paints and pesticides, and lead solder use in food containers. Because the potential impacts to human health from lead are well known, some members of the public believe that banning lead in ammunition and sport fishing tackle is a logical and viable course of action to protect human health or to avoid adverse impact on wildlife.

CURRENT STATUS

WAFWA members are currently using a variety of methods to address the lead and wildlife issue, including regulations, legislation, voluntary programs or outreach and education programs. As part of this project, the work group surveyed WAFWA members about this issue.

About half of the 21 WAFWA members responding to a recent survey report they are taking no action on this issue, even though nearly all respondents believe this is a “significant issue.” Of the 21 members responding, 12 agree and 6 strongly agree with the statement that “lead from ammunition and fishing tackle is a significant issue to wildlife management worthy of further study, consideration, or action by WAFWA.” Two members strongly disagree with the statement, while one was neutral. Arizona and California both report involvement in legal action regarding the use of lead in ammunition or fishing tackle. The survey instrument and a summary of the results are attached to this report. (Attachment 2 & 3)

IMPACT OF LEAD ON FISH AND WILDLIFE

Lead poisoning caused by shot, bullets and fishing tackle made of lead is well documented in scientific literature. More than 100 species of wildlife worldwide have been documented to be adversely effected by lead. This includes at least 33 species of raptors and 30 species of Gruiformes and Galliformes. It also includes ten species considered threatened or endangered. The risk to fish populations due to exposure from lead is currently considered minimal. It is not clear if lead contamination of soils results in lead accumulation in invertebrates. No studies were found to suggest ingestion of lead from ammunition or fishing tackle is a severe or widespread problem for amphibians and reptiles, although individual or site specific events with alligators, crocodiles and turtles have been reported.

Few examples of lead poisoning are documented in mammals other than of humans and their pets. There are examples of mammals (bears and wolves) with elevated blood lead level associated with scavenging carcasses that were shot with lead ammunition. Concerns have been raised about possible effects on black-footed ferrets and other small and medium sized mammalian predators and scavengers, however, specific study histories were not reviewed where lead from ammunition or fishing tackle had a population level consequence on mammals.

Lead poisoning is well documented in waterfowl and birds using wetland habitats, especially where high and long-term shooting activities have resulted in high levels of spent shot in the area. Raptors and long-lived vultures and condors appear to be highly susceptible to poisoning from lead obtained while scavenging hunter-killed game. Loons, cormorants, pelicans, penguins and swans, as well as ducks and geese are known to pick up lead from fishing tackle.

Lead toxicity affects multiple organ systems. Clinical findings of lead intoxication in birds include anemia, weight loss, drooping wings, weakness, inability to fly, and a green watery diarrhea. Exposure to high levels can result in death within days. Chronic low-level exposure can lead to immunosuppression, behavioral changes, poor condition, and reproductive impairment.

There is little doubt that the ingestion of relatively small amounts of lead for most wildlife species can have devastating or lethal effects to individual animals. The impacts from spent lead ammunition or sport fishing tackle to certain wildlife species, such as waterfowl or condors, is well studied and understood. However, this provides little insight on whether there is a real impact to other wildlife species at a population level.

NORTH AMERICAN WILDLIFE CONSERVATION MODEL

Individual fish and wildlife agencies are vested with the authority and responsibility to manage their state’s fish and wildlife in public trust. The cornerstone of state efforts has been the North

American Wildlife Conservation Model which relies on sound science in an attempt to manage fish and wildlife resources so that their populations are sustained at optimal level in perpetuity. Some members of public understand and support the premise of the North American Model, while others take a view that values fish and wildlife at the individual, rather than the population, level. The death of individual animals due to lead ingestion may prompt some members of the public to view all sources of lead as harmful to wildlife and may result in legislative or legal efforts to ban lead ammunition or fishing tackle or restrict its use in some areas. In order to maintain maximum ability to effectively manage fish and wildlife, state agencies should be proactive in addressing this issue.

PUBLIC HEALTH

While fish and wildlife agencies do not have authority over human health issues, they often must react to public health concerns. Chronic Wasting Disease, toxic algae blooms, and mercury contamination are examples of the intersection of human health and fish and wildlife management. Public concerns about the potential impact on human health of lead ammunition fragments in game meat will require agencies to provide consistent and credible information about this issue. This will be especially important for states that allow hunter harvested game to enter the human food supply (via food bank donations). This will require close coordination with the health community to provide consistent information, to ensure public safety and to minimize the impact on legal hunting. The involvement of a credible public health agency with broad jurisdiction may provide consistency in messaging between states and increase the effectiveness of this effort. As an example, a statement by the World Health Organization regarding Chronic Wasting Disease put the risk to human health into perspective and helped reduce public concern about CWD.

IMPACT ON HUNTERS AND ANGLERS

Legal hunting, fishing and trapping are critical to the success of North American wildlife management. Hunters and anglers continue to be the primary source of funding for conservation efforts through the purchase of licenses and tags and through an excise tax on hunting, angling, and shooting sports equipment. Though past conservation efforts have focused on game species, other species have benefited as well.

Lead has been widely used in the manufacture of ammunition and fishing tackle for many years because it is readily available, malleable, and inexpensive. Manufacturers state that while alternatives to lead exist, they may be more expensive, may be impractical to use, and could require retooling of manufacturing processes. An abrupt transition to a requirement for non-lead ammunition or tackle could result in reduced availability and higher costs for ammunition and tackle.

It is unknown how hunters and anglers would respond to such a situation. However, it is generally accepted that approximately one-fourth of the nation's waterfowl hunters left the sport either temporarily or permanently when the national ban on using lead shot was enacted for waterfowl hunting. If a national ban on lead resulted in similar loss of hunters and anglers, it could jeopardize state and national efforts to recruit and retain hunters and anglers and to preserve the nation's hunting, fishing and wildlife heritage.

Additionally, little is known about the attitude of hunters and anglers towards regulations of lead ammunition and fishing tackle. An internet review by the WAFWA Human Dimensions

Committee found few previous human dimension and/or public surveys regarding lead and wildlife (Attachment 4). WAFWA members could benefit from additional information on public attitudes and understanding of this issue.

Further, there appears to be little information on lead and wildlife provided to the public by fish and wildlife agencies. Of the 21 WAFWA members responding to a survey, 13 reported providing some information about lead and wildlife. In two cases, only information about federal regulations is provided. A cursory review of the available information identified inconsistencies. Some information stressed the effect of lead on wildlife while other information highlighted the potential effect on human health. And, in those cases, the message and tone varied – from “lead is toxic to both children and adults” (OR) to “Pregnant women and children younger than 6 should not eat any venison harvested with lead bullets” (ND, CA). This lack of consistent and accurate information may create confusion among hunters and anglers and could diminish the effectiveness of any efforts to reduce the use of lead ammunition and fishing tackle.

IMPACT ON INDUSTRY

Ammunition and sport fish tackle manufacturers and retailers are vital supporters of state conservation programs through the Wildlife and Sportfish Restoration Program funding derived from federal excise taxes on sporting goods. Manufacturers and retailers have pointed out that a conversion to non-lead alternative materials for the production of ammunition and sport fishing tackle will have real costs in terms of raw materials, production and distribution. In addition, manufacturers and retailers have expressed concerns that, if not properly written, any proposed regulatory changes could be overly broad and have unintended consequences. If a conversion to non-lead alternatives is contemplated, agencies must fully recognize and consider the impacts to these important partners in wildlife conservation, and allow for full collaboration with industry. Any proposed changes should allow sufficient time for manufacturers, retailers, hunters and anglers to smoothly transition to the use of non-lead alternatives and should, to the extent possible, minimize the impact on legal hunting and fishing.

ROLE OF STATES

Individual fish and wildlife agencies are charged with managing their state’s fish and wildlife in the public trust. Agencies are also bound by legal and societal constraints that are unique to the individual state. While consistent messaging about the impact of lead ammunition and fishing tackle should help reduce public confusion about lead and wildlife, individual states will need the flexibility to develop their own policies regarding this issue. Some states may opt to take a regulatory approach while others may rely on voluntary measures.

Voluntary measures may include incentives to switch to non-lead ammunition and fishing tackle. Successful programs have allowed hunters and anglers to exchange lead ammunition and fishing tackle for non-lead alternatives. Identifying funding for these voluntary programs can be difficult. Initial guidance from the US Fish and Wildlife Service to some states has been that Pittman-Roberts funds cannot be used to fund a volunteer program that includes the purchase of non-lead ammunition for hunters for use in Condor areas. WAFWA should work with the Association of Fish and Wildlife Agencies (AFWA) and the USFWS to provide states greater flexibility to use Federal Aid funds for voluntary programs to reduce the use of lead ammunition and fishing tackle.

Actions by federal agencies can also affect fish and wildlife management by the states. In the case of lead ammunition and fishing tackle, different policies and approaches by federal

agencies and public land managers may increase public confusion about the issue. WAFWA should work with the Association of Fish and Wildlife Agencies (AFWA) to encourage federal agencies to develop consistent policies regarding lead ammunition and fishing tackle.

FOUNDATIONAL STATEMENTS

In managing the impacts to fish and wildlife resources from ingested lead, WAFWA recognizes the following:

1. Ingested lead from spent ammunition or sport fishing tackle is currently known to have detrimental effects on some species of wildlife at the individual or population level. While the impact of ingested lead on waterfowl and condors is generally accepted, the population level impact on many wildlife species is not currently well studied or understood. Sound science is one of the cornerstones of the North American Model of Wildlife Conservation and is the proper tool for the development of fish and wildlife policy in North America. Because the effects of lead from spent ammunition and sport fishing tackle on wildlife populations are not currently well understood, WAFWA encourages additional research and studies on the effects of lead on fish and wildlife.
2. Hunters and anglers are some of the original and most active conservationists and can be very helpful in reducing the amount of lead dispersed from spent ammunition and sport fishing tackle. Therefore, it is important that WAFWA members maintain the continued support of hunters and anglers when considering available management options and alternatives.
3. Wildlife resources, distribution and abundance, hunting and fishing practices and other social and political factors associated with use of lead varies greatly from state to state, and therefore, states need to develop their own approaches (voluntary/regulatory) to managing lead from spent ammunition and sport fishing tackle.
4. Public awareness and understanding of the potential effects of using lead ammunition and sport fishing tackle and the benefits of using non-lead alternatives is critical to successful efforts to manage this issue. Therefore, WAFWA members should work to develop consistent messaging regarding the effect of lead from spent ammunition and fishing tackle.
5. Manufacturers and retailers of sporting goods and ammunition have played a crucial role in the support of state Sportfish and Wildlife Restoration Programs through the Pittman-Robertson and Wallop-Breaux federal excise taxes. Continued collaboration and cooperation with ammunition and sporting fishing tackle manufacturers and retailers is critical to developing affordable and effective alternatives.
6. The consumption of game meat containing fragments of spent lead ammunition may have human health effects for some segments of the population, such as small children and pregnant or nursing women. WAFWA members should cooperate with state and local public health agencies that regulate and manage human health in future studies of these potential effects. WAFWA members and public health agencies should work to develop consistent and appropriate messaging regarding the consumption of game meat containing lead fragments from spent ammunition. The involvement of a credible public health agency with broad jurisdiction may help increase the effectiveness of this messaging.

7. Decisions regarding fish and wildlife management are best made by state fish and wildlife agencies. Proactive steps by state fish and wildlife agencies will ensure greater latitude and flexibility to deal with the issue at a state level. Therefore, it is important for member states to proactively address this issue as necessary and appropriate rather than having action directed by legislative, court, or federal administrative actions.
8. There are many different opinions and concerns to consider when dealing with this issue. It is important that states listen to all stakeholders and utilize appropriate human dimensions tools when developing effective management strategies, conservation programs, and informational material.
9. Changes for constituents and industry can be difficult and confusing, and may affect hunter and angler recruitment and retention programs if not properly addressed. It is important that efforts to address this issue are collaborative in nature and include constituents, industry, retailers, and other interested parties along with state fish and wildlife agencies.
10. A consistent approach by federal land management agencies, including the U.S. Forest Service, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service and National Park Service, is critical to minimizing public confusion and animosity on this issue. WAFWA members will work to maintain an active and open dialogue with federal land managers in an effort to promote and develop consistent management programs across the landscape.

WORK GROUP RECOMMENDATIONS TO WAFWA

1. Continue the WAFWA Lead and Wildlife Ad Hoc Work Group for an additional year. The ad hoc work group will coordinate with the Resource, Information and Education, Human Dimensions, Wildlife Health, Hunter, Angler and Shooting Sports, and State-Federal-Tribal Communications Committees and the Wildlife and Fish Chiefs to address the lead and wildlife issue.
2. Direct the Resource Information and Education (RIE) Committee to develop strategic messages that could be used consistently across member agencies to better inform and educate the public on issues related to lead and wildlife including:
 - Impacts to populations vs. individual animals
 - Positive role of hunters and anglers and sportsmen ethics
 - Positive role and importance of industry involvement
 - Accurate information on public health agency concerns about game meat consumption and current scienceThe RIE Committee should update directors on its progress at the January 2011 business meeting.
3. Direct the Human Dimensions Committee to work with the RIE Committee to develop effective strategic messages using human dimensions studies and to identify the need for future human dimensions research on this issue.
4. Direct the Wildlife Health Committee to continue to collect and analyze current scientific literature regarding lead and wildlife and keep WAFWA Directors apprised of research developments. The Wildlife Health Committee should provide an update to directors at the January 2011 business meeting.

5. Direct the Hunter, Angler and Shooting Sports Participation Committee to work with industry to maintain an open and collaborative approach on addressing this issue. The Hunter, Angler and Shooting Sports Participation Committee should update directors on its progress at the January 2011 business meeting.
6. Direct the State-Federal-Tribal Communications Committee to work with the Association of Fish and Wildlife Agencies (AFWA) to seek a consistent federal policy statement by federal agencies regarding the use of lead ammunition and tackle on federal lands. The State-Federal-Tribal Communications Committee should provide an update to directors at the January 2011 business meeting.
7. Direct the Wildlife and Fish Chiefs committees to collect ongoing information on each state's efforts related to this issue over time and include a summary of this information in the report to the directors. A summary of this information should be provided to directors at the January 2011 business meeting.
8. WAFWA will work with AFWA, US Fish and Wildlife Service, industry, retailers and others to encourage efforts to provide incentives to manufacturers and others to adopt/develop non-lead products. Directors should be updated on these efforts at the January 2011 business meeting.
9. WAFWA will work with AFWA and the USFWS to provide states greater flexibility to use Federal Aid funds for voluntary programs to reduce the use of lead ammunition and fishing tackle. An update on this effort will be provided to directors at the January 2011 business meeting.
10. WAFWA will work with AFWA, US Fish and Wildlife Service, industry, retailers and other interested parties to identify needs for additional research and studies on the effects of lead on fish and wildlife. Directors should be updated on these efforts at the January 2011 business meeting.
11. WAFWA members adopt the proposed resolution regarding lead and wildlife. (Attachment 5)