



## **LEAD EXPOSURE THROUGH AMMUNITION & WEIGHTS USED IN HUNTING AND FISHING**

### **SUMMARY**

National wildlife health surveillance has found ongoing death and disease in birds of prey due to lead exposure from consumption of fish and wildlife exposed via ammunition or fishing weights. Lead bullet fragments can be widespread in hunter killed wildlife carcasses. Canadian risk assessments and North American studies show this lead is bioavailable, documented higher blood lead in subsistence hunters, and associated lead ammunition with higher core blood level in newborns and in children. This evidence indicates increased lead exposure risk to people consuming game animals killed with lead ammunition. Copper bullets have similar ballistic properties and are a viable means to reduce risk.

### **BACKGROUND**

Subsistence hunters and others consuming hunted game meats, as well as children in hunting communities, have been found to have elevated blood lead levels. Surveillance of birds of prey that scavenge the remains of hunted animals show that lethal and clinically significant levels of lead peak around the hunting season. A CWHC study of lead isotopes determined that eagle poisonings were a consequence of scavenging the remains of hunted animals contaminated by lead fragments left by hunters in carcasses at the killing sites. Other research has concluded that people risk exposure to bioavailable lead from bullet fragments when they eat deer or moose killed with standard lead-based rifle bullets and processed under normal procedures. Other Canadian and circumpolar studies have implicated exposure to game meats killed by lead ammunition as the probable cause of elevated blood lead levels in newborns and children. The USCDC found that those consuming wild game in North Dakota have 50% more lead in their bloodstream than non-game-eaters. The provisional tolerable weekly intake set by the World Health Organization is likely exceeded in people eating game meat on a regular basis. Reductions in adult and children's blood lead levels have declined with prohibitions on lead ammunition. Selected references are provided as an appendix to this note.

## CURRENT STATUS

Environment Canada banned use of lead shot for hunting most migratory game bird species. The nation-wide ban, in place since 1999, resulted in a dramatic decrease in elevated lead exposure in wild waterfowl. Lead ammunition is still used for big game and upland game hunting as well as for killing 'pest' species such as gophers and coyotes. The use of lead shot and bullets has been regulated in many countries around the world. The types of bans vary widely and range from partial, voluntary restrictions of the use of lead shot to a total ban on the use and import of lead ammunition. Impacts on wildlife have often provoked these bans. Some voluntary bans are being advocated or enacted in the Maritimes.

## CONSIDERATIONS

A prohibition of lead ammunition for hunting would benefit wildlife and people who consume wild game. A coordinated approach across Ministries and agencies responsible for wildlife health and public health may more quickly and effectively address this shared conservation and human health concern. A coordinated risk assessment to establish the level of urgency to respond to the issue and explore regulatory options for risk reduction is recommended. Collaboration on a communication strategy to create awareness of the risk in the hunting and game animal consuming communities is warranted.

## REFERENCES

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