FACING THE DANGERS, PART 2: LEAD

By: Debbie Wheeler

As I sit in my office, I gaze out my window and watch a pair of beautiful and majestic Bald Eagles as they balance precariously at the top of the tallest tree at the end of my garden. They are constantly harassed by the Crows and irritated by one incensed Rufous Hummingbird that thinks everything belongs to him. But these imposing and magnificent birds have many more pressing issues threatening their survival than a few scolding crows or a furious little bird. One of these is the toxic effect of lead in the environment, which can lead to these apex predators' impairment and eventual death.

Golden Eagle being treated at OWL
Photo: OWL

If you live in beautiful British Columbia, particularly near the coast around Delta and surrounding areas, you will have undoubtedly seen many a bald eagle perched on a streetlight or in the trees at the sides of the highways. If you are lucky, you may have them perched on the trees at the end of your garden. If you are even luckier, you may meet these impressive birds face-to-face, as I do every time I go to the **Orphaned Wildlife Rehabilitation Society (OWL)** in Ladner. This is where injured raptors from around the province go to receive medical care and be nursed back to health. If they are lucky, they meet me face-to-face as I only meet them

Bald Eagle being treated at OWL
Photo: OWL

right before they are ready to be released back into the wild. I give them a federal band with a unique number that can be tracked after release if their band is spotted.

Unfortunately, while at the rehab centre, I have often seen eagles arrive in obvious medical stress. Sometimes the birds are just lethargic or confused and make no attempt to flee from humans. Some may show obvious neurological symptoms, such as twitching, loss of coordination, inability to stand, gasping and tremors. Some may have been confused and ended up being hit by a vehicle. Some may be so weak that they cannot fly or even stand. Whenever these eagles arrive showing such symptoms, a blood sample will be taken and tested, and many will show high levels of lead, leading to a diagnosis of lead poisoning.

Lead poisoning is one of the top three problems they have when arriving at OWL, along with rodenticide poisoning and electrocution. It is also one of the most frustrating to deal with since it is a problem that can be so easily solved. Most lead poisoning of raptors is due to the use of lead in hunting (bullets) and fishing (lead weights). When lead-based bullets or lead shots hit an animal, they split into hundreds of tiny fragments. These fragments penetrate into the surrounding muscle and other tissue, travelling up to 45cm away from the entry point. Much of this tissue is then left behind by the hunter in gut piles or unwanted carcasses, which then get picked up by scavengers, including bald eagles. Lead poisoning cases rise significantly during the hunting season as these gut piles are consumed by eagles. The lead travels into the bloodstream and soft tissues and can lead to acute lead poisoning and neurological symptoms. Lead can become incorporated into tissues, bones and feathers, and levels can slowly build up over time. This leads to chronic lead poisoning, eventually causing death.

Similarly, lead weights left behind in fishing and picked up by dabbling ducks, such as mallards, or ingested by fish, are caught by bald eagles and other raptors (e.g. fish-eating raptors such as osprey), once again leading to lead poisoning.

Is it possible to help these lead-poisoned birds? Lead is a heavy metal; over time, it accumulates in an eagle's internal organs and bones, and the amount will increase if more is ingested. Unfortunately, little can be done to reduce these chronic levels of accumulated lead, and the bird may suffer permanent, chronic effects. These effects may not cause immediate mortality, but they can impair the eagle's ability to hunt and capture live food due to its impact on coordination and eyesight. As a result, their reaction time and reflexes may be slowed, and the birds are more likely to suffer accidents or injuries that would otherwise be avoidable. It is equivalent to trying to live your life while permanently

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Osprey catching a meal

Bald Eagle

Golden Eagle

Using lead-based bullets to hunt waterfowl has been banned since the mid-1990s. However, it is still legal to use such ammunition to hunt big game, upland game birds and for shooting targets and vermin. So, what can be done to solve this problem? The easy solution is to switch from lead-based bullets to bullets based on other metals. There are widely available alternatives to lead bullets, most based on copper. They offer the same performance as lead bullets but do not fragment when they penetrate the target. This makes it easy to remove entirely, leaving no harmful fragments behind. This is healthier for humans, wildlife and the environment.

When I was a child back in England, I once remember having pheasant for Sunday lunch. My Mum had bought it from the local butchers: it was on sale and a great bargain! I can still remember the warning label on the pheasant. "WARNING – may contain lead shot!" But it was a bargain, so we ate it anyway! Would you want to feed your child lead fragments? My Mum obviously didn't think it was a problem. All four of her children turned out OK...well, mostly...but I think we can all agree that it would be better for all of us, our children and our planet if we keep lead out of our environment. So please, switch to non-lead bullets and fishing weights.

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Vancouver Avian Research Centre