

THREATS TO TRUMPETER SWANS: LEAD

Text by Martha Jordan

HOW DO SWANS GET THE LEAD SHOT?

Each time a shotgun is fired, depending on the shot shell size and load, from 200 to over 400 pellets fall to the ground where most remain available to feeding birds. Although lead is no longer legal for waterfowl hunting, the lead pellets can remain available to the birds for many years. Lead shot is still being deposited into some swan feeding areas because in many areas it remains legal for use in upland bird hunting, sporting dog training and off established shooting ranges for target/trap shooting.

The Swans pick up the lead shot when they are feeding or seeking grit (small stones) in wetlands or in agricultural fields. They swallow the pellets, which are the same general size as the grit which they need to aid in the grinding of food in their gizzards. Lead shot pellets are the same general size as the grit that ducks, geese, mourning doves, chukar and many other species of birds are known to ingest while searching for grit and subsequently die.

WHAT IS LEAD POISONING?

There are two types of lead poisoning - primary and secondary. Primary lead poisoning occurs with the direct ingestion of lead shot either as food or while searching for grit. This is how swans and other waterfowl obtain lead shot. Eagles and other predatory or scavenging birds also suffer primary lead poisoning by consuming lead shot and bullets embedded in tissues of game animals killed or wounded with lead ammunition. Secondary lead poisoning occurs when predators such as eagles or other raptors eat the contaminated tissues of birds that have died from lead poisoning.

Lead poisoning results after food is ground against the grit and lead shot in the bird's gizzard. Lead is a soft metal which gets ground down easily and then is taken into the blood stream. Lead affects the central nervous system. Classic signs of lead poisoning in swans are severe weight loss from paralysis of the digestive system, green staining around the vent area, and general weakness with an inability to hold up the wings. The swan usually dies of starvation because it can no longer digest food. Sometimes the birds can survive if the lead breakdown process is slow and only 1 or 2 pellets have been ingested. Other times, if they eat corn for example, the grain is hard and the lead is ground down more quickly, thus resulting in a high release of lead into their blood stream.

Depending on what food a swan eats, as few as 3 to 4 ingested lead pellets can cause death. Over 300 of the dead swans that were examined in recent winters contained more than 30 pellets in their gizzards. Over 50 swans contained more than 100 lead pellets.

Lead shot ingestion can also result in elevated blood levels without causing immediate death on the wintering grounds. However, the lead in the body tissues can reduce the ability of these swans to survive migration or reproduce successfully. Research in recent winters showed that approximately 30% of our Trumpeter Swans in this area have elevated lead levels although they did not show any obvious

symptoms of lead toxicity when examined.

Swans spend their winter days feeding in agricultural fields or adjacent wetlands and then go to night roosts, typically a lake, slough or estuary. Swans fly into the night roosts, and do not leave the roost the next day if they feel ill. The birds get weaker and often die at the roost site, even though they may have swallowed the lead miles away. The length of time it takes a swan to die from lead poisoning varies with diet and the amount of lead shot ingested. Usually death occurs 5 to 21 days after ingesting the lead.

LEAD SHOT & BULLETS - GET THE FACTS

Problems with the use of lead shot had been known since the 1950s but extensive testing during the 1970s and 1980s proved how significant the problem was for waterfowl and other birds. This knowledge resulted in the phasing out of lead shot for waterfowl hunting in 1986 to 1991. However, in many areas the use of lead remains legal for most other forms of hunting and shooting activities. All lead ammunition is toxic to wildlife and the environment. This includes lead shot, lead slugs for shotguns and bullets.

The use of lead ammunition remains one of the most significant sources of lead deposition into the environment while other sources of lead from industry, paints, and gasoline continue to decrease. For example, a national ban of lead shot in Canada would reduce the amount of lead released into the environment by more than 800 tons annually and in the U. S. the amount of reduction would be much more. Lead deposited on our lands can leach into the soil and water. Also, lead deposited directly into waterways from hunting or trap shooting may further contaminate soils downstream. The replacement of toxic lead shot by **NON-TOXIC AMMUNITION** will help conserve the health of our bird populations and their habitats for everyone to enjoy.

NON-TOXIC AMMUNITION - WHAT IS IT?

Ammunition made from other metals or combination of metals is available and has been shown to have minimal to no toxicity on wildlife. Research to develop better ammunition that will work as well as lead and be benign to the environment and wildlife is on-going.

Several non-toxic alternatives have been developed and approved for use, including bismuth shot, tungsten-matrix shot, steel shot, tungsten-iron shot, tin shot, tungsten-polymer shot. At this time, many of these alternatives are more expensive than lead, although the cost is coming down and the difference in price for some shot is minimal.

The cost to work with lead poisoned wildlife and the deaths of non-target species including swans, raptors, and others is substantial. It is time for the public to stop allowing hunting with lead at the cost of our environmental health and wildlife resources.

YOU CAN HELP!

- If you choose to hunt, please use non-toxic ammunition. Tell the store why you are buying non-toxic shot and urge them to promote its use.
- If you allow hunters to use your land, require them to use only non-toxic shot on your property.
- Post your land proudly "This is a lead-free hunting area!" You can help prevent future poisoning and help educate the public at the same time.
- ALSO, join the [Adopt a Swan](#) program to help fund research including monitoring of swans, soil sampling at night roosts for lead pellets and other data collection so that the primary sources of the lead that is killing so many swans can be found and removed.
- The Trumpeter Swan Society is also working on a campaign to "Get The Lead Out!" through education of the public and hunters about the lead shot issues and to gain support to encourage all lead shot users to voluntarily switch to non-toxic shot. Voluntarily switching to non-toxic shot is something we all can do - without wasting one more day - to help reduce the needless deaths of swans and other wildlife.
- **Write a letter:** Let your political leaders know that this is an important issue and that funding to stop the lead poisoning is a priority need. Depending on where you reside, write to your state, federal or provincial leaders and urge them to support funding for the 2009-2010 winter season of hazing at Judson Lake. The plan for keeping swans off Judson Lake has turned from research to management action. This year's plan is to work with a method for keeping swans off the lake that will result in a very substantial reduction in costs that will continue until lake restoration efforts can be completed.

CURRENT REGULATIONS

Non-toxic shot has been required for all waterfowl hunting in the United States since 1991 and in Canada since 1999.

Regulations vary from state to state and province to province relating to lead shot use for other forms of hunting and shooting sports. Please check with your local wildlife agency for current regulations. Remember, even where lead is legal, you can help end the poisoning by voluntarily choosing to use non-toxic shot.

Washington State has been a leader in "Getting the Lead Out" of bird and small game hunting. Many other states have similar restrictions as well. In April 2009, the Washington Fish and Wildlife Commission adopted statewide hunting seasons and regulations that include new restrictions on toxic lead shot. The Commission, which sets policy for the Washington Department of Fish and Wildlife (WDFW), adopted the new three-year hunting plan after nearly eight months of public comment and review. As part of that process, WDFW wildlife managers conducted public meetings around the state and contacted more than 50,000 licensed hunters by e-mail to solicit their ideas on various management options under consideration.

Under one new policy approved by the commission, WDFW will phase in an expansion of state restrictions on the use of lead shot. Noting that toxic shot has been banned in hunting waterfowl since 1991, WDFW has been expanding that prohibition to other hunts around the state. New this year, hunters

will be required to use non-toxic shot when hunting upland game birds or mourning doves in three units of the Sunnyside-Snake River Wildlife Area, where ingestion of lead shot by wildlife is of particular concern. In 2011, the non-toxic shot requirement will be expanded to all established WDFW pheasant-release sites.

NON-HUNTING ACTIVITIES: There are few regulations on ammunition type used for non-hunting activities such as trap or target shooting, sporting dog training and hunt tests or field trials. Lead shot is often used in these activities, even in areas where waterfowl subsequently feed!

There is one federal regulation relating to permits for holding, transferring and killing of captive bred mallards specifically used in sporting dog training or field trial activities (CFR 50 Chapter 1 Part 21.13). Item 4 (d) begins with "When so marked, such live birds may be killed, in any number, at any time or place, by any means except shooting. Such birds may be killed by shooting only in accordance with all applicable hunting regulations governing the taking of mallard ducks from the wild:" This means that only nontoxic shot may be used when captive bred mallards are shot for dog training or trialing or hunt test purposes anywhere and anytime.

Each state has different rules for the use of lead and nontoxic shot for hunting and other shooting sports. Please contact your local wildlife agency for details in your area.

MORE INFORMATION ON LEAD SHOT, BULLETS, and FISHING SINKERS

[WDFW The Use of Nontoxic Shot for Hunting in Washington](#)

[Proceedings from Conference, "Ingestion of Lead from Spent Ammunition: Implications for Wildlife and Humans"](#)

This conference brought together professionals in wildlife and human health to share information on the toxic effects of spent lead ammunition.

[Fish and Wildlife Issues Related to the Use of Lead Fishing Gear](#)

For more information on lead shot and lead poisoning in wildlife the [Canadian Wildlife Services](#) website and review Occasional Paper 88 on lead shot and fishing sinkers, and also [Occasional Paper 108](#) on fishing sinkers.

See what the State of Minnesota is doing to educate the public about the dangers of lead fishing tackle to swans, loons, and eagles. Click here to learn about their [Let's Get the Lead Out! campaign](#).