Nova Scotia

Saint Mary's researchers studying how heavy metals hurt bald eagles

Analysis will examine lead, mercury and arsenic in mainland N.S. eagles

Shaina Luck · CBC News · Posted: Dec 31, 2018 8:00 AM AT | Last Updated: December 31, 2018

This lead-poisoned eagle was brought to the Cobequid Wildlife Rehabilitation Centre in Hilden in 2017. (Facebook)

comments

Researchers at Saint Mary's University in Halifax will soon understand more about how heavy metals in the environment are harming Nova Scotia's bald eagles.

Wildlife conservationists have known for years that contaminants like lead shot can poison eagles that eat the remains of animals shot by hunters.

However, right now, no one knows exactly how much lead, mercury, and arsenic may be inside the birds' bodies.

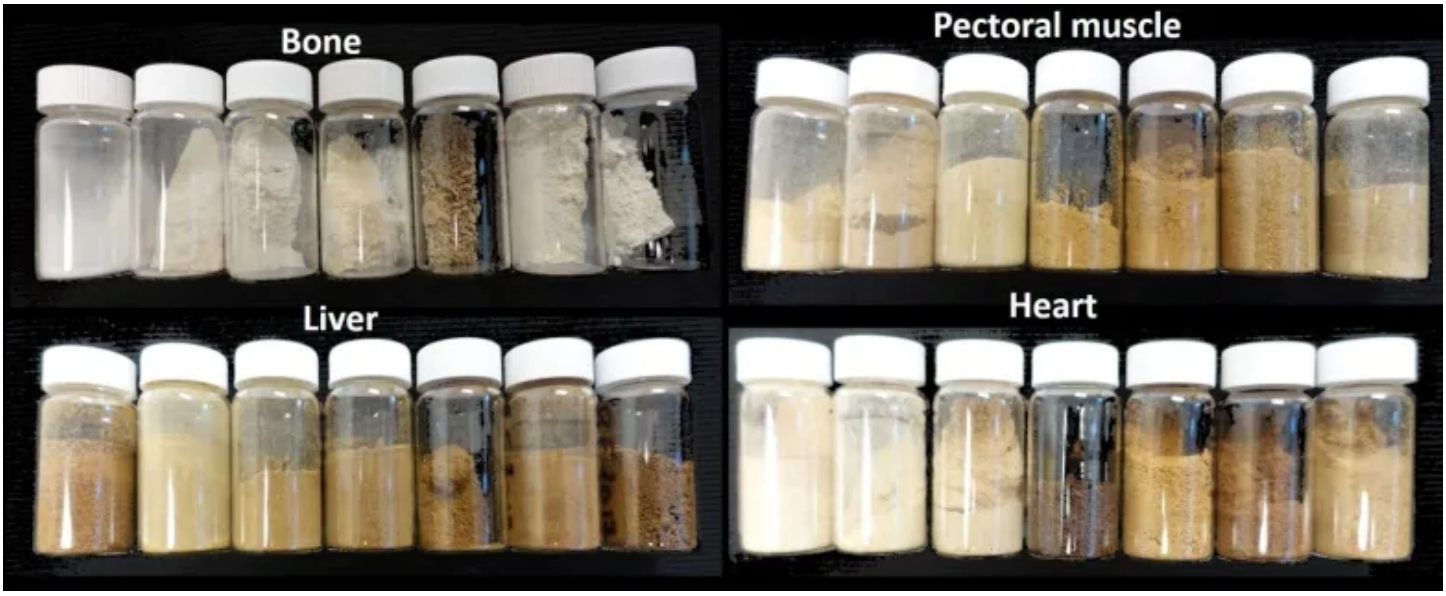
"For Nova Scotia, we have no data," explained Linda Campbell, the study's lead researcher and the director of the school of environment at Saint Mary's. Campbell studies how contaminants travel upward through the food chain, where eagles are at the top.

Dr. Linda Campbell, director of the school of environment at Saint Mary's University in Halifax. (Courtesy: Linda Campbell)

"There is data from other parts of North America but it's hard to extrapolate that here to Nova Scotia because our eagles are more coastal. They eat fresh water and salt water organisms, and they're exposed to different levels of contaminants," she said.

Lead can affect the nervous function and brain development. Mercury is also a neurotoxin and may affect the development of eggs, and eagles may ingest it through eating fish. Arsenic is highly toxic and naturally found at high levels in Nova Scotia.

Campbell worked with the Cobequid Wildlife Rehabilitation Centre in Hilden to gather tissue samples from the bodies of seven bald eagles that died of lead poisoning or other injuries. All the eagles were brought to the centre from different areas of mainland Nova Scotia.



Linda Campbell gathered tissue samples from the bodies of seven eagles. The samples were dried and ground before lab analysis. (Courtesy: Linda Campbell)

The tissue samples were dried and ground into powder and next week they will be sent to a lab for analysis.

In about six to eight weeks, Campbell will receive the results and start analyzing the data. She plans to show her team's findings to the wildlife centre, the public and the hunting community.

"To keep [eagles] healthy, we need to understand how they're accumulating contaminants. We use that data to protect the eagle population in the future," Campbell said.

Winter is typically the season when sick bald eagles are found around the province. They're often emaciated and showing signs of lead poisoning including loss of motor control, rapidly dilating and contracting pupils, seizures, as well as trouble breathing, swallowing and standing.

Murdo Messer and the team at the Cobequid centre are caring for seven eagles who came in for various reasons, including lead poisoning.

Murdo Messer is the co-founder of the Cobequid Wildlife Rehabilitation Centre. (Nicole Williams/CBC)

Messer has been part of an education campaign to get hunters to use non-lead shot for years. He said most people who use lead shot are willing to switch once they see studies done on eagles elsewhere, but some resist.

He's hopeful studies on Nova Scotian eagles will help convince more people to switch from lead.

"I think to have something that's local, that has a whole pile of data that we can say, OK, these are eagles that were found in Nova Scotia, these are the blood samples that we took from these birds and these are the tissue samples that we took from these birds, and here are the results," he said.

"We can then convey that to the general public and the hunting community and say look, that's scientific proof how you're affecting the environment."

With ASL-English interpretation by Ashley Campbell