



New York

Mercury Rising: The Continued Plight of the Bald Eagle



Mercury is on the rise in the Catskill Mountains and it seems to be **accumulating in the bodies of bald eagles**, according to a [2008 report](#) released by The Nature Conservancy, [Biodiversity Research Institute \(BRI\)](#) and partners.

The recent study is **the first to comprehensively examine mercury exposure in New York's bald eagles** and in the Catskill Region. We asked Conservancy scientist David Braun, one of the researchers in the study, to help us understand what this new report means.

nature.org: *Briefly, what was the outcome of the study?*

David Braun: The study shows that **one in four bald eagle chicks and one in three adult eagles in the Catskills have mercury in their bodies**, at levels that are known to cause harm in other birds such as common loons. Few bald eagles elsewhere in the state showed such high mercury concentrations.

These findings unfortunately echo the results of [previous studies showing that forest songbirds in this region also are accumulating harmful levels of mercury](#).



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Click to view [photographs of the eagle monitoring project](#) in the Catskill Mountains.

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Dr. David Braun is director of conservation science for [The Nature Conservancy's Eastern New York Chapter](#). Following a career in academia and government, he joined the Conservancy in 1993, working in the Biohydrology Program and later as Watershed Projects Director in the Freshwater Initiative. He later became Watershed Program Director for the Upper Mississippi River Basin Prog

Nature.org: *Aside from their national status, why should we be worried about mercury contamination in eagles — or songbirds and salamanders for that matter?*

David Braun: While eagles are iconic and certainly valued for their own sake, they are also a crucial part of the Catskills ecosystem. The same goes for songbirds, salamanders and every other forest organism. If population levels decline or individuals are in poor health or have impaired nervous systems, they cannot function well as parts of the ecosystem.

For example, songbirds and bats prey on bugs, keeping insect numbers down. Eagles prey on fish, which helps maintain population numbers and proper interactions among fish within stream and lake ecosystems. Remove one part of the system and suddenly the whole thing is at risk.

Nature.org: *How did these eagles get contaminated? Where is the mercury coming from?*

David Braun: Coal-fired plants in the upper Ohio River basin are the most likely sources of the mercury coming to the Catskills. The airborne mercury is carried from these sources by the wind and returns to Earth in dry form, rain, snow and fog. Under the right conditions, this mercury can build up in worms, insects and spiders from these environments.

Animals that eat these organisms — like fish and songbirds — then accumulate mercury in their own tissues, and on up the food chain until you reach top predators like bald eagles.

Nature.org: *How do researchers test the eagles?*

David Braun: As you can imagine, testing eagles is no simple matter. The field teams from [BRI](#) and the New York State Department of Environmental Conservation (NYSDEC), Endangered Species Program, used climbing equip to reach nest sites that biologists knew contained nestlings 5-8 weeks of age. The teams then collected and preserved blood and feather samples, following strict procedures for their gentle handling. They also collected adult feather found in or near the nest tree.

BRI scientists submitted the samples for laboratory analysis and carried out the statistical study of the laboratory find

Nature.org: *What is the impact of the contamination on the birds' health? What about other creatures in the Cats*

David Braun: Mercury is a “neurotoxin,” meaning it causes harm to the nervous system. Effects can include impaired behavior, learning and reproduction. Right now we only know that New York bald eagle adults and nestlings have surprisingly high level of mercury in their body tissues — we don’t yet know what constitutes a harmful level of mercury for bald eagles. We do know the harmful levels for other animals throughout North America like loons, salamanders and songbirds, which helps us to put things into perspective.

Nature.org: *What is the human impact of mercury pollution?*

David Braun: Mercury is a neurotoxin for people, too. We can accumulate mercury in our bodies by eating certain kinds of fish from areas where they are likely to accumulate mercury from the environment. The [New York State Department of Health routinely issues fish consumption advisories](#) for waters in the Catskills region for this very reason. At present, there are nine such advisories in effect here addressing consumption of smallmouth bass, walleye, yellow perch, brown trout and largemouth bass from the region’s reservoirs and lakes. Some kinds of tuna and ot

while also providing biohydrology a to the Mobile River Estuary program in Alabama. In 2006 he joined the Eastern New York Chapter as Director of Conservation Science, where he now works on a broad range of atmospheric, terrestrial, and aquatic conservation challenges.

Go Deeper

Press Release:

[Read the press release announcing findings](#) of the eagles and mercury

New York Times:

Read the [New York Times Science about bald eagles in the Catskill Mountains](#).

Read the Report:

[Download a factsheet showing the of the study](#) (.pdf), and find out how mercury is affecting New York state eagles.

Threats from Above:

[Air pollution is harming every major ecosystem type](#) in the northeastern mid-Atlantic United States. [Find out more](#).

Explore the Catskills:

Just 100 miles outside of Manhattan, [Catskills are the source of drinking water for 9 million people in New York City](#). Find out how we work.

ocean fish also accumulate levels of mercury that make it dangerous for people to consume them except in moderate quantities, too.

Nature.org: *How is The Nature Conservancy taking action?*

David Braun: The Nature Conservancy has joined leading researchers to call for significant improvements in the way that our states and the federal government regulate air pollution. Presently the Clean Air Act does not mandate standards for what constitutes harmful levels of air pollutant deposition for ecosystems.

The Conservancy has also joined with other environmental groups in a letter to NYSDEC Commissioner Grannis, asking the State of New York to develop its own approach to protect the [Catskills](#) and [Adirondack](#) regions. And we have called for greater monitoring of atmospheric deposition — including mercury deposition — and its ecological effects, across the state and nation.

Nature.org: *What happens next?*

David Braun: With the release of the report on mercury in bald eagles across New York state, we are now assessing whether the mercury is causing actual harm to the eagles. We have also funded a research team from BRI and the Harvard University School of Public Health to develop a statistical model of how and where mercury 'hotspots' form; along with BRI and Harvard, we are participating in a similar but more detailed modeling study for New York state directed by the Wildlife Conservation Society and funded by a NYSDEC State Wildlife Grant.

We hope that these scientific investigations will provide critical information for policy makers and lead to stronger reductions in the air pollution that affects our ecosystems.

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