

Bald Eagles in Catskills Show Increasing Mercury

By ANTHONY DePALMA

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Less than two years after the bald eagle was removed from the federal government's endangered species list, an environmental organization in Maine has found an alarming accumulation of mercury in the blood and feathers of bald eagle chicks in the Catskill Park region of New York.



Lou Bouscher

CHECKING IN Researchers studying bald eagles visited a nest to collect data, take a blood sample and place bands on the legs of young eagles. Scientists say further study of elevated mercury levels is needed.



New York State Department of Environmental Conservation



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The levels are close to those associated with reproductive problems in common loons and bald eagles elsewhere in the Northeast, although the New York and national populations of bald eagles have been growing strongly in recent years.

The study is being released Tuesday by the BioDiversity Research Institute, a nonprofit ecological organization in Gorham, Me. The average mercury blood level in chicks within the parks' boundaries was 0.64 parts per million.

The same study showed that about one-quarter of the feathers of adult birds also had elevated levels of mercury, suggesting that the toxin builds up in the raptors faster than they can get rid of it.

David C. Evers, the institute's director and a co-author, with Chris DeSorbo, of the study, said that not enough research had yet been done to say with certainty what effect the elevated mercury levels might have on eagles.

He acknowledged that the tremendous growth in bald eagle numbers since DDT was banned in 1972 suggested that mercury was not hurting national reproduction rates. But he said that overall population figures could be masking slower growth in the regions where the mercury contamination is highest.

Peter E. Nye, who has run the New York State Department of Environmental Conservation's bald eagle restoration program for three decades, worked with Mr. Evers on the mercury study.

He said that mercury contamination was a concern but that he was "not ready to turn on the siren and cry wolf."

In fact, he said, the state's 145 resident pairs of bald eagles produced 188 chicks last year, a 23 percent increase from the year before.

In New York, the eagle population has grown from one nesting pair in the 1970s to 145 pairs this year. But the bird is still listed as threatened in the state.

Mr. Evers said that while the mercury threat was certainly not dire, there was cause for concern. "If mercury does reduce reproductive abilities of bald eagles," he said, "it will likely reduce survivorship over time."

There may be another reason for concern. Lynda White, eagle watch coordinator at the Audubon Center for Birds of Prey in Maitland, Fla., which monitors active eagle nest sites, said that because eagles are so sensitive to contamination — evidenced by their tragic link to DDT — they are good barometers of environmental health.

"If mercury is affecting them, it eventually is going to affect us, as well," Ms. White said.

Eagle chicks elsewhere in New York also were tested for mercury. But levels were not as high as those in the Catskills, which is home to several huge reservoirs that store drinking water for New York City, 110 miles away.

The city's water is tested regularly, and so far the mercury poses no known threat to people who drink it, city officials say.

But the mercury makes its way into worms and organisms eaten by fish, in streams and ponds as well as the reservoirs. The fish are then consumed by eagles (and sometimes by people, although New York has issued advisories limiting the amount of fish from the state's lakes and rivers that can be consumed safely).

The Catskills region receives some of the severest mercury contamination in the country, in large measure because of prevalent wind patterns that regularly carry harmful smokestack emissions from the Midwest. The [Nature Conservancy](#), which has protected swaths of the Catskills, financed this study as well as previous works on mercury contamination in the region.

Mercury comes from several sources, but primarily from coal-burning power plants. Mercury occurs naturally in coal and is sent up smokestacks when coal is burned.

Wind currents blow the mercury eastward, where it eventually falls into lakes, rivers and streams to form methylmercury, which can cause neurological disorders in animals and humans.

For much of the year, bald eagles live on brown trout, smallmouth bass and other fresh water fish that can be contaminated with methylmercury. Adult eagles feed the fish to their nestlings. Studies of common loons have shown how mercury can affect behavior. The loons become lethargic, which can affect their ability to gather food or sit on a nest long enough for eggs to hatch. Reproductive rates in loons contaminated with mercury can drop by as much as 40 percent, according to Mr. Evers.

A 2007 study by the BioDiversity Research Institute of mercury levels in bald eagles in Maine showed that there was a "significantly negative" correlation between reproduction rates and blood mercury levels, although the actual percentage of lowered rates has not yet been determined.

Other scientists have found mercury in bald eagle populations in South Carolina, Florida and Michigan, though not at levels considered threatening. Federal efforts to control mercury emissions have been criticized for not being stringent enough to address the problem of local hot spots.

Mr. Nye, of New York's conservation department, said the study could prove useful in the future.

"While the current study doesn't point to any immediate or critical concerns," he said, "it does provide excellent baseline information on mercury contamination for future reference, should we see reproductive problems cropping up with any of our eagles."

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