

Mercury Falling

Monitoring Songbirds for Mercury

A Mercury Mystery

[Recent news](#) that a variety of migratory songbirds nesting in forests across [New York](#) were found to have elevated mercury levels has surprised many who thought the threat from mercury was confined to aquatic birds and the fish they eat.

How could "terrestrial" birds, like the diminutive Bicknell's and wood thrush, which feed on insects and other critters found in leaf litter, accumulate mercury if they did not consume contaminated fish and did not depend on food sources found in ponds or lakes? The culprit?

Atmospheric deposition of mercury.

Canary in the Coal Mine

Emanating primarily from coal-burning power plants in the Midwest, mercury and other toxins are transported by winds and deposited as rain or snow across Northeastern forests like the [Catskills](#) and the [Adirondacks](#). Here, on the forest floor, the mercury is ingested and metabolized by insects which, in turn, serve as a primary food source for migratory songbirds and other woodland creatures. As songbirds, some of whom consume their entire weight in insects everyday, feed on this "contaminated" food source, mercury begins to accumulate in their tiny bodies. Excess mercury in the blood is known to cause a variety of [neurological and reproductive problems](#) in animals; birds, which are extremely susceptible to toxins in their environment, often produce fewer eggs and less viable young.

Conservancy and other scientists agree that migratory songbirds can act as the proverbial canary in the coalmine, because their wellbeing is indicative of the overall, long-term health of forests and other ecosystems. Populations of wood and Bicknell's thrushes are in decline across their range in the Northeast and Canada. It is unclear yet if mercury is to blame.

Researching the Threats

Research by [The Nature Conservancy](#) on the impact of mercury deposition in New York began in 2002 when the Conservancy's [Eastern New York Chapter](#) identified atmospheric deposition* as an important threat to the ecological

integrity of the Catskill forest. The Catskills are especially important to the New York metropolitan area for capturing and filtering freshwater. Also of great concern for the Catskills were the twin threats of increased pests and disease, which could be easily be bolstered by a decrease in the number of insect-feeding birds.

The growing concern about the impact of atmospheric deposition in the Catskills and other regions in New York and adjoining states led to the creation of a Northeast and Mid-Atlantic task force on mercury.

Working in 2004 with Maine's [BioDiversity Research Institute](#), Conservancy scientists and managers from the [Catskill Mountains Program](#) raised enough funds to finance the study of mercury in songbirds at various sites in New York and Pennsylvania. A [report from the 2005 field season](#) is now available (.pdf 638kb).

Building on this important research, the [Conservancy in New York](#) has expanded funding, partners and the number of research sites for the 2006 field season. This year's research will also include other species of interest, such as [eagles](#), bats, and salamanders.

Due to its similarities with the Catskills, close attention is also being directed this year to data collection in the [Adirondacks](#). The information resulting from this research will help determine the extent and pattern of mercury deposition in New York. The findings will inform conservation strategies and public policy at a local and regional level.

In addition to Maine's [BioDiversity Research Institute](#), Conservancy partners this year include the [New York State Energy Research and Development Authority](#) (NYSERDA), a public benefit corporation, the [Shawangunk Ridge Biodiversity Partnership](#), and the [Wildlife Conservation Society](#).