

Beyond the Loon: Mercury Concentrations in Songbirds of the Northeastern US

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Mercury (Hg) is a global pollutant associated with acid rain deposition and point-source emissions that is known to have harmful effects on fish, wildlife, and human health. Survival, reproduction, immune response, song, and endocrine function are all aspects of avian ecology that may be adversely affected by elevated blood Hg levels. Mercury bioaccumulates within the food web, and therefore, birds occupying higher trophic levels, such as piscivorous birds, have long been used as indicators of Hg availability; however, recent research reveals that invertivores are also useful gauges of Hg exposure. Between 1999 and 2010, we measured the blood Hg levels of 1993 songbirds (83 species) within 22 sampling regions of 11 New England and MidAtlantic States. Blood Hg levels ranged from 0.009 ppm (American Goldfinch [*Spinus tristis*] in southwest Virginia) to 9.418 ppm (Red-winged Blackbird [*Agelaius phoeniceus*] at a Superfund site in eastern Massachusetts). Some species of conservation concern, such as the Saltmarsh Sparrow (*Ammodramus caudacutus*) and Rusty Blackbird (*Euphagus carolinus*), appear to bioaccumulate greater amounts of Hg than other species. Indeed, our results show that foraging guild, habitat type, elevation, and geographic location are important variables to consider when assessing risk of Hg exposure among songbird species.

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