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NEW STUDIES IDENTIFY CAUSES OF MERCURY POLLUTION HOTSPOTS

Major Biological Mercury Hotspot in Massachusetts Linked to Nearby Coal-fired Power Plants

Hanover, NH **–** Scientists released the results of two new studies that identify five known and nine suspected biological mercury hotspots in northeastern North America and for the first time link them directly to causes. The authors report that U.S. coal-fired power plants are a major source of the problem. New results in the study also reveal that EPA estimates of mercury deposition near a hotspot in Massachusetts are far too low. The studies are the result of a three-year effort by the Hubbard Brook Research Foundation (HBRF) and are the cover story of the January issue of the peer-reviewed scientific journal *BioScience.*

The HBRF team of 11 scientists used an extensive data base of more than 7300 samples to quantify mercury levels in fish, loons and other wildlife from New York to Nova Scotia. "Statewide fish advisories are a blunt tool that are useful, but don't demonstrate just how severely polluted some waters really are," said Dr. David Evers, Executive Director of the BioDiversity Research Institute. "We found fish with mercury levels that were more than 10 times higher than the EPA human health criterion. People need to know where these highly polluted lakes exist so that they can take appropriate precautions when choosing where to fish and whether or not to consume that fish" said Evers.

The HBRF team linked the biological mercury hotspots to sources of mercury pollution and found that mercury emissions to the air are the leading cause. According to Dr. Charles Driscoll, a first author of one of the studies and the University Professor of Environmental Systems Engineering at Syracuse University, "Mercury emissions to the air cause biological mercury hotspots in watersheds sensitized by decades of acid rain, reservoirs manipulated for power production and other purposes, and locations near large emissions sources, such as coal-fired power plants -- as we see in Massachusetts."

The studies also present a new analysis showing that mercury deposition is five times higher near the Massachusetts hotspot than previously estimated by EPA – calling into question EPA methods and the appropriateness of the cap-and-trade policy in the EPA Clean Air Mercury Rule. "Our modeling results support a growing body of evidence that a significant fraction of the mercury emitted from coal-fired power plants in the U.S. is deposited in the area surrounding the plants," said Dr. Thomas Holsen, Professor of Civil and Environmental Engineering at Clarkson University and co-author of the studies. The concern over local impacts has prompted several states to reject mercury trading and adopt more stringent emissions standards for coal-fired power plants in their EPA-mandated plans, potentially calling into question the viability of a national trading program.

The good news is that the HBRF team also determined that mercury levels in fish and wildlife in Massachusetts can decline relatively quickly in response to decreased airborne mercury emissions within the region – a new finding for the Northeast.

Importantly, the results of these studies have prompted the writing of new draft federal legislation aimed at tracking mercury pollution and its effects.

"There is still a lot that we don't understand about mercury, but it is clear that biological mercury hotspots occur and that mercury emissions from sources in the U.S., as opposed to China and other countries overseas, are the leading cause. Mercury emissions will have to be reduced substantially from current levels if we are to see recovery in sensitive watersheds in the Northeast," said Dr. Driscoll.

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Available for Interviews

David Evers, Ph.D. – office: 207-839-7600, cell: 207-653-7378, david.evers@briloon.org
Dr. Evers is the founder and Executive Director of the BioDiversity Research Institute (www.briloon.org). He specializes in research on avian toxicology and patterns of mercury availability in the common loon. Dr. Evers also holds leadership positions in the Gulf of Maine Seabird Contaminant Assessment Network and the Global Loon Mercury Monitoring and Research Program. He earned a Ph.D. in conservation biology from the University of Minnesota and has published more than 40 scholarly papers.

Dr. Thomas M. Holsen - office: 315-268-3851, cell: 315-212-5261, holsen@clarkson.edu
Dr. Holsen is currently a professor in Civil and Environmental Engineering at Clarkson University and co-director of the Clarkson Center for the Environment. His primary research interests include investigating atmospheric inputs of persistent organic chemicals and mercury to Lake Ontario, the atmospheric deposition and emission of mercury from forested ecosystems, and investigating the transport, deposition and sources of pollutants in New York State.

For copies of the studies, B-roll, photographs, and other supporting material contact Judy Brown at: Tel. 603-653-0390 x102, jbrown@hbresearchfoundation.org

Materials will be available on the HBRF website as of Tuesday, January 9, 2007: www.hubbardbrookfoundation.org