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**For Immediate Release**
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# NEW STUDIES IDENTIFY CAUSES OF MERCURY POLLUTION HOTSPOTS

*Major Biological Mercury Hotspot in Southern New Hampshire Linked to Nearby Coal-fired Power Plants*

Hanover, NH – Scientists released the results of two new studies today that identify five known and nine suspected biological mercury hotspots in northeastern North America and suggest that coal-fired power plants in the U.S. are major contributors. The biological mercury hotspot with the highest mercury levels in fish occurs downwind of a major coal-fired power plant in southern New Hampshire. Another biological mercury hotspots exists in the Upper Connecticut River of New Hampshire and Vermont. The studies are the result of a three-year effort by the Hubbard Brook Research Foundation (HBRF) and a scientist from Dartmouth College, and are the cover story of the January issue of the peer-reviewed scientific journal *BioScience.*

While widespread fish consumption advisories have been in place for years, they do not provide a precise picture of where mercury levels are the highest. To fill this gap, 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 at specific lakes and reservoirs 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. Celia Chen, Research Assistant Professor in the Department of Biological Sciences at Dartmouth College and a co-author of the studies. "We were surprised to find yellow perch in the southern New Hampshire hotspot with mercury concentrations more than 10 times higher than the EPA human health criterion. Given the capacity for mercury to bioaccumulate in the food chain, the mercury in fish species that people tend to eat would probably be even higher" added Dr. Chen.

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 New Hampshire."

The HBRF team conducted a case study to determine the cause of the biological mercury hotspot in southern New Hampshire and found that mercury deposition levels are four to five time higher than the EPA estimates. “This modeling study supports a growing body of evidence that a significant fraction of the mercury that is emitted from coal-fired power plants 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. This finding calls into question the appropriateness of the methods EPA used to dismiss the potential for mercury hotspots and justify the cap-and-trade policy of the new Clean Air Mercury Rule. 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 can decline relatively quickly in New Hampshire 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**

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Dr. Chen is a Research Associate Professor in the Department of Biological Sciences at Dartmouth College. Her primary research interests are in the fate and effects of contaminants, particularly metals, in aquatic systems. She has been investigating the ecological fate of Hg in lake food webs for the last 10 years. Dr. Chen holds a M.S. degree in biological oceanography from the University of Rhode Island and a Ph.D. from Dartmouth College in aquatic ecology. She has been a principal investigator in the Dartmouth Superfund Basic Research Program for 11 years and has published over 30 scientific papers.

**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 on Tuesday, January 9, 2007: www.hubbardbrookfoundation.org**