

# Science Blog

The Nation's Top Scientists Speak Out on Mercury Pollution; New Research in New Hampshire Highlighted

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HANOVER, New Hampshire, Dec. 15 -- Today, the Bush Administration is expected to release its new regulations regarding mercury pollution from electric utilities. The details of this rule were leaked to the media last week revealing less stringent standards than expected, delayed implementation and potential mercury trading among power plants.

In response to this announcement, some of the Nation's top scientists have come together for the first, to release new and existing research pointing out the connections between emissions of mercury and mercury in fish and other aquatic life.

"Taken together, the this science presents compelling information on the nature, extent and severity of the ecological consequences of mercury pollution associated with air emissions," says Charles T. Driscoll, University Professor of Civil and Environmental Engineering at Syracuse University and board member of the Hubbard Brook Research Foundation. "With a hazardous pollutant, such as mercury, science should play a central role in informing public policy," he adds. "For example, in our new research in New Hampshire we estimate that fish in 54 percent of lakes in the state violate the most stringent EPA standard for mercury. This is a significant impact," adds Driscoll.

Today, Dr. Driscoll and his colleagues are releasing new findings and calling attention to recent research from across the U.S. that sheds light on the extent of the mercury problem and the degree to which air emissions are responsible for high mercury in lakes, fish and loons. Specifically:

-- New research shows impact to fish is severe. New estimates for the Northeast show that 40 percent of lakes in New Hampshire and Vermont violate the highest EPA standard for mercury in fish - - demonstrating that the problem is more severe than previously thought. This new publication is "in press" in the Environmental

## Toxicology and Chemistry.

-- New research suggests delays may be harmful. Preliminary results from the "METAALICUS" experiments in Northeast Ontario and experiments in the Florida Everglades suggest that recently deposited mercury is more active in ecosystems than existing mercury -- implying that it is important to reduce mercury emissions sooner rather than later in order to limit mercury accumulation in fish and other wildlife. The proposed regulations are expected to delay substantial mercury emission cuts to 2018.

-- Recent study demonstrates the problem can be addressed. Research from the Florida Everglades suggests that reductions in air emissions of mercury have led to rapid decreases in mercury concentrations in fish and wading birds -- benefits can be expected from controlling mercury emissions.

-- New research shows biological hotspots can occur. A nation- wide dataset on loon eggs, recently published in the journal *Ecotoxicology*, shows that large local mercury emissions can result in extremely high mercury concentrations in nearby loon eggs -- suggesting that biological hotspots of mercury can occur. Hotspots have been identified as a possible consequence of mercury trading.

Reminiscent of the findings in Rachel Carson's *Silent Spring*, loon eggs in some areas of New Hampshire consistently have the highest mercury levels in North America. "Unfortunately, loons can't read fish consumption advisories." says Dr. David Evers, Executive Director of the Biodiversity Research Institute. "They are ingesting large amounts of mercury from the fish in New Hampshire lakes and have become the quintessential canary in the coalmine," Evers adds. These results were published this year in the journal *Ecotoxicology* (Volume 12, 2003). Most of the mercury in New Hampshire lakes comes for air pollution sources that would be affected by the new regulations announced today.

Despite these advances in research, the current national monitoring network for airborne mercury in the U.S. is insufficient to measure the full impact of the proposed new regulations. The New Hampshire-based Hubbard Brook Research Foundation is calling for a \$2 million investment in the expansion of the network and an increase in the annual operating budget of \$1 million/year. This plan was included in the Omnibus Mercury Bill introduced in the U.S. Congress earlier this year by Sen. Patrick Leahy (D-Vt.) and Sen. Olympia Snowe (R-Maine).

As part of this overall effort to disseminate current research, Dr. Driscoll and the Hubbard Brook Research Foundation have requested a briefing with EPA Administrator Michael Leavitt to present the latest science of mercury pollution.

The Hubbard Brook Research Foundation (HBRF) is a non-profit organization dedicated to improving the understanding and stewardship of terrestrial and associated

aquatic ecosystems through scientific research, long-term monitoring, and public education.

#### Available for Interviews

Charles Driscoll, Ph.D. is a Distinguished Professor of Civil and Environmental Engineering at Syracuse University. Dr. Driscoll has conducted mercury research for over a decade. He has authored more than 200 papers and has a Ph.D. in Environmental Engineering from Cornell University.

David Evers, Ph.D. is the founding Executive Director of the Biodiversity Research Institute in Falmouth, Maine (<http://www.BRIloon.org>). Dr. Evers' research focuses on the effects of elevated mercury on Common Loon behavior, reproduction, and population dynamics in North America. He holds a Ph.D. from the University of Minnesota.

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