

# NEWS ADVISORY



For more information, please contact the lead authors of the five synthesis papers:

**Atmospheric Sources**

Steven Lindberg, Oak Ridge National Laboratory (emeritus), (530) 927-7627, [lindberg@now2000.com](mailto:lindberg@now2000.com)

**Human Health Effects**

Donna Mergler, University of Québec at Montreal, (514) 987-3000 #3355, [mergler.donna@uqam.ca](mailto:mergler.donna@uqam.ca)

**Socioeconomic Consequences**

Edward B. Swain, Minnesota Pollution Control Agency, (651) 296-7800, [edward.swain@state.mn.us](mailto:edward.swain@state.mn.us)

**Wildlife Health Effects**

Anton Scheuhammer, Environment Canada, (613) 998-6695, [tony.scheuhammer@ec.gc.ca](mailto:tony.scheuhammer@ec.gc.ca)

**Recovery of Fisheries**

John Munthe, IVL Swedish Environmental Research Institute, +46-31-7256200, [john.munthe@ivl.se](mailto:john.munthe@ivl.se)

**or Conference Co-Chair:**

David Krabbenhoft, U.S. Geological Survey, phone (608) 821-3843, email [dpkrabbe@usgs.gov](mailto:dpkrabbe@usgs.gov)

**Notes:** (1) The appended portable document file (PDF) contains the text of the entire declaration with nontechnical summaries of the principal findings. (2) The journal *Ambio* can be viewed online at <http://ambio.allenpress.com/ambioonline/?request=index-html>. *Ambio* subscribers can view the entire issue; others may view only the abstracts. (3) Additional information about the Madison conference—including unedited, full-length videotapes of all four panel presentations—is available at [www.mercury2006.org](http://www.mercury2006.org).

## Scientists: Mercury Use, Emissions Pose Serious Global Threat

**MADISON, Wis. (8 March 2007)**—Mercury use and emissions pose a serious threat to the health of people, fish and wildlife around the world, according to a declaration by the world's leading mercury scientists published today in a special issue of the international science journal *Ambio*.

“The Madison Declaration on Mercury Pollution” stems from four expert panels assembled at the Eighth International Conference on Mercury as a Global Pollutant held last August in Madison, Wisconsin. It presents 33 principal findings from five papers by panel members in the same issue of *Ambio* that summarize what is now scientifically known about the sources and movement of mercury in the atmosphere, the socioeconomic and health effects of mercury pollution on human populations, and its effects on the world's fisheries and wildlife. The major findings include:

### **Sources of Atmospheric Mercury**

- On average, three times more mercury now falls from the sky than before the Industrial Revolution 200 years ago.
- The mercury deposited in areas downwind of major industrial sources of oxidized mercury tends to be predominately mercury from a human source rather than natural sources.
- Increasing mercury emissions from developing countries have offset declining emissions from developed nations during the last 30 years.

### **Risks to Humans, Fish and Wildlife**

- Methylmercury exposure at present levels constitutes a public health problem in many parts of the world.
- There is now solid scientific evidence of methylmercury's toxic health effects, particularly to the human fetus.
- New evidence indicates that methylmercury exposure may increase the risk of cardiovascular disease, particularly in adult men.
- The health risks posed by mercury contamination of fish warrant issuing a worldwide warning to the

—MORE—

public—especially children and women of childbearing age—to be careful about how much and which fish they eat.

- Increasing mercury concentrations are now being found in a number of fish-eating wildlife species in remote areas.
- Continued methylmercury exposure may lead to population declines in fish-eating birds and mammals and possibly in fish as well.

### **Socioeconomic Impacts**

- Little is known about the behavior of mercury in marine ecosystems and methylmercury contamination of marine fishes, the ingestion of which is the primary way most people at all levels of society worldwide are exposed to this highly toxic form of mercury.
- The actual socioeconomic costs of mercury pollution are probably much greater than estimated because existing economic analyses don't consider mercury's impacts on ecosystems and wildlife.
- The unregulated use of mercury in small-scale gold mining is polluting thousands of sites around the world, posing long-term health risks to an estimated 50 million inhabitants of mining regions and contributing more than 10 percent of the mercury in Earth's atmosphere attributable to human activities.

### **Recovery of Mercury-Contaminated Fisheries**

- The concentration of methylmercury in fish in freshwater and coastal ecosystems can be expected to decline with reduced mercury inputs; however, the rate of decline is expected to vary among water bodies, depending on the characteristics of a particular ecosystem.

“One of the purposes of this scientific declaration is to provide a synthesis of scientific knowledge about the scope and nature of the mercury problem to guide the development of effective mercury pollution policies,” said conference technical chair Dr. James Wiener, a Wisconsin Distinguished Professor at the University of Wisconsin-La Crosse.

Published by the Royal Swedish Academy of Sciences, *Ambio* is widely recognized as an important international forum for debate on scientific, social, economic and cultural issues affecting the human environment.

Wiener said the Madison Declaration summarizes a year-long effort by many of the world's leading mercury experts, assembled into four conference panels, to review and synthesize mercury science findings. All members of the scientific panels endorsed the declaration, he said. Wiener added that all 1,150 participants at the conference were invited to express their confidence of the experts' findings, and the vast majority of those who did so agreed with the experts' conclusions.

“This declaration summarizes what scientists around the world have learned about a series of key questions that are directly relevant to the discussion and crafting of policies to reduce the environmental mercury problem,” Wiener said.

Besides Wiener, conference organizers included James Hurley of the University of Wisconsin-Madison Sea Grant Institute, David Krabbenhoft of the U.S. Geological Survey and Christopher L. Babiartz of the UW-Madison Water Science & Engineering Laboratory. UW Sea Grant, USGS and UW-La Crosse were among the major sponsors of the 2006 conference.