

# Mercury pollution threatens health worldwide, scientists say

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Mercury pollution can threaten the health of people, fish and wildlife everywhere, from industrial sites to remote corners of the planet, but reducing mercury use and emissions would lessen those threats, according to a declaration ratified today (Aug. 11) at an international conference on mercury pollution.

The "conference declaration" was released on the final day of the Eighth International Conference on Mercury as a Global Pollutant. The scientists also declared that a significant portion of the mercury deposited near industrial sources comes from those sources, rather than from natural sources, and that evidence of mercury's health risks is strong enough that people, especially children and women of childbearing age, should be careful about how much and which fish they eat.

"The declaration essentially says that mercury pollution is a problem of global magnitude," says James Hurley, assistant director of the University of Wisconsin-Madison Aquatic Sciences Center and a co-chair of the conference.

David Krabbenhoft, a research scientist at the U.S. Geological Survey and also a co-chair of the conference, adds that the document declares that the social and economic costs of mercury are probably higher than currently estimated, because they don't take into account mercury's impact on wildlife.

Krabbenhoft says the conference declaration summarizes a yearlong effort of 37 top scientists to review the last decade of mercury science. All 37 scientists endorsed the declaration in full, Krabbenhoft says. He added that all participants at the conference were invited express their opinion of the findings, and a large majority of those who did so agreed with the conclusions.

"The declaration summarizes what we know about mercury in the environment, from a wide array of

expertise," Krabbenhoft says.

## **Grouped into four major topics, other points of the declaration included:**

### **Sources of atmospheric mercury deposition:**

- On average, three times more mercury now falls out of the sky than before the Industrial Revolution 200 years ago.
- For the last 30 years, emissions from developing countries have increased, offsetting decreased emissions from developed nations.
- The amount of mercury in the atmosphere is apparently not changing. Thus, new findings of a shorter atmospheric lifetime suggest greater movement of mercury to and from the earth's surface.
- Understanding of the global mercury cycle is being confounded by climate change, increasing ozone levels and other nonmercury factors that may affect how long mercury stays in the atmosphere and how and where it falls.

### **Risks to humans, fish and wildlife:**

- There is solid scientific evidence to show that methylmercury has toxic effects, particularly to developing fetuses. New evidence indicates that methylmercury exposure may increase the risk of cardiovascular disease in humans, particularly in adult men.
- To increase the benefits and reduce the risks, consumers should choose fish with high levels of omega-3 fatty acids and low levels of methylmercury.
- There is no evidence that selenium in the diet protects people from the neurological and developmental effects of methylmercury.

-- Reductions in local and regional point-source mercury emissions have lowered mercury levels in the fish and wildlife affected by them. However, increasing mercury concentrations are now being found in a number of fish-eating wildlife in remote areas.

-- Methylmercury exposure may lead to population declines in birds and possibly in fish and mammals as well.

#### **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. The rate of decline ranges from years to centuries, depending on the characteristics of a particular ecosystem.

#### **Socioeconomic impacts of mercury use and pollution:**

-- Mercury use and pollution from human activities has had, and continues to have, documented adverse social and economic consequences.

-- More information is needed about methylmercury contamination levels in marine fishes, the ingestion of which is the main way most people are exposed to methylmercury.

-- The use of mercury in small-scale gold mining is polluting thousands of sites around the world, posing long-term health risks to up to 50 million inhabitants of mining regions and contributing more than 10 percent of the mercury in Earth's atmosphere resulting from human activities.

Source: University of Wisconsin

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