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Op Ed Contributors

The Danger Downwind

By DAVID C. EVERS and CHARLES T. DRISCOLL Jr.

IN 2005, the Environmental Protection Agency took its first important step toward reducing mercury pollution from coal-fired power plants. Its Clear Air Mercury Rule is intended to bring about a 70 percent reduction in mercury emissions over the next 20 years.

But the new rule does not require all plants to reduce emissions by the same amount. Some may be allowed to pollute more than others by buying pollution credits from other plants.

The E.P.A.'s faith in this "cap and trade" approach is based on the assumption that mercury pollution disperses evenly in the environment. This strategy has worked well in reducing emissions of sulfur dioxide, a component of acid rain. But mercury does not behave in the same way as acid rain. In fact, much of the mercury emitted by coal-fired power plants remains near those plants.

In a just completed 10-year study of birds, fish and mammals in the northeastern United States and southeastern Canada, we found five places where fish and wildlife have exceptionally high concentrations of mercury in their blood. Under the E.P.A.'s new rule, these biological mercury "hot spots" could persist, with dangerous consequences for the health of people and wildlife.

For more than a century, mercury pollution has blanketed much of the United States. Coal-fired power plants and other sources emit mercury into the atmosphere, where it is carried with the wind and deposited onto the ground. On land, particularly in wetlands, mercury can change to a form known as methyl mercury, which readily accumulates in organisms.

Methyl mercury is taken up by microscopic plants and animals, which are then consumed by fish and other animals. As it moves up the food chain, methyl mercury increases in concentration as much as 10 million times. Animals at the top of the chain that consume lots of tainted fish — common loons, bald eagles, river otters and some humans — are exposed to methyl mercury in amounts high enough to cause neurological damage, behavioral abnormalities and reproductive problems.

Children are particularly at risk for mercury poisoning. Some 200,000 to 400,000 children born in the United States each year have been exposed to mercury levels in their mothers' wombs high enough to impair neurological development, according to an analysis of data gathered from 1999-2002 by the National Health and Nutrition Examination Survey.

To reduce this exposure, the E.P.A. must monitor, and work to eliminate, mercury hot spots.

Within one hot spot we found in western Maine, 43 percent of the adult loons had blood mercury levels higher than 3.0 parts per million — three times as much as loons tested from remote Alaskan lakes, and high enough to be poisonous. One loon had a blood mercury level of 14.2 parts per million and showed visible signs of poisoning, including an inability to dive and evade approaching boats. In southern New Hampshire, in an area downwind of several coal-fired power plants, mercury deposition is nearly five times higher than E.P.A. estimates.

Environmental protection officials in New York, New Jersey, Pennsylvania and several other states have adopted state emissions plans that prohibit trading of mercury pollution credits. The E.P.A. should likewise consider the real danger of biological mercury hot spots. At the same time, the agency should create a national mercury monitoring network to track how well its emissions limits are working. (A bill that would establish such a network is before Congress now.) This approach is the only way the agency can evaluate the need for steeper and faster reductions in mercury emissions, track how well its emissions limits alleviate hot spots and ultimately protect the environment and human health.

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