

Study Links Mercury to Local Dams, Plants

Kristen Fountain. Valley News. White River Junction, Vt.:Jan 10, 2007. p. A1

Abstract (Summary)

On the Connecticut River, the three hydroelectric dams increase the amount of mercury that fish can absorb from the water, said [Celia Chen] and others. This absorbable form of mercury is produced by bacteria that flourish on shorelines that are alternately exposed to air and covered with water--as when a dam opens and closes its floodgates to produce power. "Really, you are creating prime habitat for these bacteria," David Evers of the BioDiversity Research Institute in Gorham, Maine, said of the dams.

When the Fifteen Mile Falls hydro dams were relicensed by the Federal Energy Regulatory Commission in 2001, the impact on fish mercury levels was one of many environmental impacts considered, said Cleve Kapala, who has coordinated licensing for TransCanada, and the dams' previous owner, USGen. But adjusting the water flow to reduce fluctuations because of mercury concerns was not seriously discussed, he said.

Instead, USGen paid the environmental agencies in Vermont and New Hampshire \$150,000 each to fund mercury reduction activities, he said. The company also agreed to monitor mercury levels in fish living in the reservoirs. FERC does not require re-licensing for the Fifteen Mile Falls dams again until 2042.

Full Text (767 words)

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Air pollution from burning coal in Ohio and China is not the only reason fish in the northern Connecticut River have dangerously high levels of mercury, said a report released yesterday by Hanover-based Hubbard Brook Research Foundation.

Local power production and landscape features can also play an important role, particularly where mercury contamination is highest, according to the analysis in this month's Bioscience that is the basis for the report.

"Everybody wants to say that this is a global pollutant to the exclusion of taking account of how much the local (pollution) can have an impact," said Celia Chen, an ecologist at Dartmouth College, one of 11 researchers who participated in the three-year study.

The report identifies five regional "hotspots" where a statistically significant number of fish were found to contain more mercury than the Environmental Protection Agency considers safe to eat more than a few times a month.

Sustained exposure to mercury, primarily through eating fish, can damage the nervous system, particularly in young children.

The high mercury regions include the Connecticut River behind the McIndoe Falls, Comerford and Moore dams, known collectively as the Fifteen Mile Falls region, as well as two stretches of the Merrimack River in southern New Hampshire.

The report also points to areas in the Adirondack Mountains of New York and central Nova Scotia, and to parts of the Upper Androscoggin and Kennebec rivers in Maine.

The higher mercury levels can be traced to specific local factors, the report said. The coal-fired plants operated by Public Service of New Hampshire, together with a small coal-fired plant in northern Massachusetts, are responsible for producing 65 percent of the mercury air pollution that ends within 13 miles of the PSNH's largest station in Bow, including the Merrimack River, according to a computer model used in the study.

A study by the New Hampshire Department of Environmental Services came to a similar finding about the importance of emissions from local plants, said DES Commissioner Thomas Burack in a joint statement with Attorney General Kelly Ayotte.

On the Connecticut River, the three hydroelectric dams increase the amount of mercury that fish can absorb from the water, said Chen and others. This absorbable form of mercury is produced by bacteria that flourish on shorelines that are alternately exposed to air and covered with water--as when a dam opens and closes its floodgates to produce power. "Really, you are creating prime habitat for these bacteria," David Evers of the BioDiversity Research Institute in Gorham, Maine, said of the dams.

A 2006 study by the EPA of fish on the Connecticut River also found the highest levels of mercury in the river's northern reach and attributed it to dam-related water level fluctuations.

The report's findings have implications for federal and state policies, said its authors.

For one, the EPA rule that creates a "cap and trade" program to cut mercury pollution 70 percent by 2018 could leave hotspots unchanged, because local

power plants can purchase credits instead of reducing their mercury emissions, said Kathy Fallon Lambert, an environmental consultant in Woodstock who helped to manage the study.

New Hampshire, which opposes cap and trade, approved a law in April that requires the state's two coal-fired plants to reduce mercury emissions by at least 80 percent before 2013.

Also, mercury will likely be of greater concern in dam relicensing in the future, said Neil Kamman, an environmental scientist with the Vermont Department of Environmental Conservation.

When the Fifteen Mile Falls hydro dams were relicensed by the Federal Energy Regulatory Commission in 2001, the impact on fish mercury levels was one of many environmental impacts considered, said Cleve Kapala, who has coordinated licensing for TransCanada, and the dams' previous owner, USGen. But adjusting the water flow to reduce fluctuations because of mercury concerns was not seriously discussed, he said.

"There wasn't any strong feeling among stakeholders that the reservoir should be re-regulated because the evidence was relatively speculative and ambiguous," said Kapala, based in Concord.

Instead, USGen paid the environmental agencies in Vermont and New Hampshire \$150,000 each to fund mercury reduction activities, he said. The company also agreed to monitor mercury levels in fish living in the reservoirs. FERC does not require re-licensing for the Fifteen Mile Falls dams again until 2042.

The study and report show the evidence linking reservoir water level changes and mercury in fish is getting stronger, said Kamman. "As this science matures, state agencies and FERC are more likely to give more heat to the mercury issue," he said.

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Credit: Valley News Staff Writer