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Poison PCB Traced To Housatonic River Clay Sediment

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A Connecticut Agricultural Experiment Station study of polychlorinated biphenyls (PCB's) in the Housatonic River has led researchers to conclude that PCB's can be found by looking in the river's sedimentation.

The conclusion is significant because it would mean the toxic organic compounds are not randomly scattered in the river, but can be traced to the river clay.

"Although there is some scatter, I think it is clear by now that simply by finding the clay, we can find the PCB's," said Charles Frink, vice director of the Experiment Station.

Speaking Wednesday at a luncheon meeting of scientists and students, Frink said his group found increased concentration of PCB'S as the researchers went upstream toward Massachusetts.

"The principal source (of PCB's) is assumed to be General Electric plant located in Pittsfield," Frink said, but he said GE stopped using PCB's in March 1977, and he quoted the Connecticut Academy of Science and Engineering finding that "GE Pittsfield seems to have acted responsibly to reduce and try to eliminate its contributory flow of PCB to the Housatonic River."

However, Frink declined to estimate when residents might be able to eat trout from the river again. The scientists in the room laughed when they heard the question — an indication they don't expect any such improvement in the near future.

The State Health Department closed the Housatonic River to fishing in late spring of 1977 because of high levels of PCB's in the fish, especially trout.

"The accumulation of PCB's in the food chain is not well understood, although the data do appear to justify the Health Department ban," Frink said. "In time, we may be able to be more selective about which species may be safe to eat."

The toxic properties of PCB's were dramatically demonstrated in Yusho, Japan, in 1968, when a supply of rice oil used for cooking was accidentally contaminated with the compound.

"The people who ate it became ill with dermal cysts, respiratory distress, nervous degeneration and other complaints," Frink said. "By the time the cause was found, 1,291 people were hospitalized, 29 died and many survivors were permanently affected."

The sole U.S. producer of PCB's was the Monsanto Co., which began such production in 1929. Frink said it is estimated that about 95 percent of the 1.4 billion pounds of PCB's produced has entered or, without interruption, will enter bodies of water.

Frink's study group faced many analytical problems as the members dredged a 10-mile stretch of the 150 miles of the Housatonic. They took samples from the largest impoundment on the river, Lake Lillinonah, and from Falls Village, the Still River and six natural lakes in Connecticut that known to have received direct discharges of PCB's.

"I believe we have shown that PCB distribution is controlled by sediment distribution within a particular impoundment, so that we can continue up the river now with good confidence to examine sediments," Frink said.

Frink said at Falls Village they found PCB concentrations of about 1 part per million (ppm), about 10 times that in Lake Lillinonah. Findings in Massachusetts place the concentration in Woods Pond at 100 ppm.

The Food and Drug Administration in 1973 established a tolerance level of 5 ppm in fish, but has since proposed lowering it to 2 ppm because of new evidence of toxicity and possible carcinogenicity.

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