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Chemical found in Ohio

PCB sparks concern

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The level of a potentially dangerous chemical in the Ohio River is causing some concern within the Environmental Protection Agency (EPA).

Curtis Ross, director of the Indiana District of the EPA, described the levels of polychlorinated biphenyls, commonly called PCB, in the Ohio River as "close to a problem."

Ross said the chemical could cause skin lesions, liver ailments and hair loss in humans.

The EPA is basing its concern on a study of fish taken from the locks at eight dams on the Ohio River from Pittsburgh to Brookport, Ill., just downstream from Paducah.

In that study, the average level of PCB found in fish from each dam ranged from 5.7 parts-per-million (ppm) to 1 ppm. The U.S. sets the acceptable level of PCB at 5 ppm, "so you can see we're close to having a problem," Ross said.

The exact level of PCB that would be harmful to humans is debatable, Ross said. He noted that the Canadian government sets the upper limit at 2 ppm.

Fish taken from the Gallipolis Dam, which is about halfway between Cincinnati and Wheeling, W. Va., had the highest concentration, according to Ross, with an average of 5.7 ppm. Fish taken at Pike Island Dam near Wheeling registered the lowest at 1.0 ppm, Ross said.

The fish at the Cannelton Dam, the closest to Owensboro, contained PCB at 4.0 ppm.

The dams were picked because of their strategic locations on the river, Ross said.

Ross said the EPA decided to initiate a program to look at the source of the compounds in the Ohio River at a meeting Thursday. "We'll see what we can do to find the sources of PCB and what we can do about eliminating them," Ross said.

PCB once had widespread use in electrical and hydraulic systems. Even though the chemical is not now used for these purposes, Ross said PCB can find its way into the watershed after the machine or appliance it was used in is junked.

PCB has about 209 different compounds, Ross said, and it can range from a liquid to a wax-type of substance.

"At first, it was used with no limits. In 1971, Monsanto (Chemical Co.) stopped selling PCBs for closed electrical systems," Ross said. "PCB will still stand a lot of heat without burning and was used in many hydraulic systems."

Oil for industrial use is often reprocessed, and Ross said contaminants from hydraulic oil being processed will end up in current use and provide a continuing source of PCB.

The EPA program will include another study by ORSANCO (Ohio River Sanitation Commission) of the level of PCB in fish flesh, Ross said.

After the program is completed sometime late this year, Ross said, "we'll decide what enforcement is needed."

"I don't think we'll have any enforcement problems," Ross said. "Industry already knows that PCB must be stopped."

"If we don't find any new point sources, the PCB levels will go down in the river," Ross said. "But a lot of people still use it and a lot of them probably don't know it," he added.

One of the major problems with PCBs is what Ross termed its "persistability."

"They're like DDT in their configuration and most of its compounds break down slowly," Ross said.

"Also, PCBs can biomagnify by going through the food chain," Ross said. Ross said that the PCBs are absorbed by algae which in turn is eaten by small fish and then larger fish. As the chemical works its way up through the food chain it becomes more concentrated. In large fish, the PCB is stored in the fatty tissue and the concentration can become, through accumulation, as much as 70 times the level to which the fish is exposed.

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