

PCBs: Many questions, few answers

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The presence of PCBs in our environment is raising more questions than anyone can answer.

At stake may be people's health, along with the future of state fisheries programs, sport fishing and the commercial fishing industry.

PCBs are polychlorinated biphenyls. The chemicals are stable and resistant. They are used in electrical and heat-transfer systems, certain plastics and inks and various industrial processes. They have leaked into the environment in massive doses.

In large enough quantities, they damage and kill animal life. So with a number of other things no one bothers to worry about.

Of special interest in western Michigan is the fact that PCBs get into Lake Michigan and are absorbed by almost everything that swims. The chemical is absorbed through the skin and through the gills or other filtering system used to obtain oxygen. Bigger animals eat smaller ones and consequently absorb more PCBs. The largest fish are generally the worst contaminated.

PCBs may be cutting down the reproduction of some fish. And they may not. There are several indicators, but no proof.

PCBs in sufficient quantity will kill mammals. There is no indication that PCBs have reached levels likely to damage people in Michigan. . . even those who eat lots of fish. But there is no evidence either that PCBs might accumulate to dangerous levels if a person ate a lot of fish for 15 or 20 years.

What can be determined is that there is a tremendous need for more research.

The contaminants are in other lakes. The fish do pick up PCBs and people are being exposed to them.

PCB could be damaging fish programs by slowing or stopping reproduction. PCBs could cause a slowdown or even an end to the Michigan Great Lakes fisheries program. And PCBs could end a making people sick or killing them.

Or it could be that PCBs are not guilty of much of anything, that something else is to blame. Or, PCBs could be combined with some other chemical to cause a lot of problems that neither could cause alone.

(Coho carcasses taken at a pier near

Lake Michigan were said to inhibit ranchers. The mink stopped reproducing, too, died.

Dr. Harold Humphrey, of the Michigan Public Health Department's division of environmental epidemiology, said he doesn't think there is an immediate danger to humans.

"We have been conducting a study on people who consume Lake Michigan fish. We identified people who consume a good deal of fish from Lake Michigan. Muskegon was not one of the study communities."

"Over a couple of years, we took blood specimens and tested for PCBs. We also had a control group."

"We found that people who eat a lot of salmon and lake trout have more PCBs in their bodies than those who do not."

"We haven't found the fish-eating group to be uniquely different. There is no consistent pattern of illness or problems."

"So far as the Great Lakes PCB problem goes, we basically don't have any evidence pointing to problems with people. Still, we're sticking to the advice of no more than one meal of salmon or trout a week. There's a large margin of safety. People should avoid using salmon as a major protein source."

John Seroczynski, who works at a Muskegon tackle store, said pike fishermen he has talked to this winter generally report poor pike fishing in Muskegon Lake, normally a hot spot.

John Hesse, an aquatic biologist in charge of toxic materials with the Department of Natural Resources (DNR), said, "Lake trout have been in

Lake Michigan long enough for natural reproduction. But we can't discount any."

"However, the planting location may have something to do with it." The lake trout were planted along the shore. Normally, hatcheries spawn on offshore reefs and may have to be planted there for reproduction.

"But, PCBs could be involved in our lake trout problem," Hesse said. There is no indication, however, that the high levels of PCBs in salmon are affecting their reproduction.

And salmon get full of PCBs in the last weeks of their life, when they store fat and energy for the spawning run.

"Lake Michigan salmon show 5 to 15 parts per million, with it running higher in the larger fish. Lake trout and 5 to 10 ppm and up to 20 ppm in some fish. Harems get higher in the

southern part of the lake," Hesse said. "Some fish caught in Indiana test as high as 60 ppm. Steelhead and brown trout test about the same."

"Atlantic salmon are failing to reproduce where planted in Lake Michigan streams and PCBs could be the cause there, he said."

The Federal Food and Drug Administration (FDA) has set the tolerance level at 5 ppm.

"That came from tests on rats," said Richard Powers, an assistant to Hesse. "Then it was found that rats can metabolize PCBs more than humans. Rhesus monkeys can't stand as much."

The FDA is considering lowering the level to 2 ppm or 2.5 ppm. Canada already has set a level of 2 ppm. Is that safe?

"No one has ever been documented

as being poisoned by eating contaminated fish," Hesse said. "The PCBs do cause cancerous conditions in test monkeys."

"PCBs may be killing seagulls in Lake Ontario. There is a higher level of PCBs in the fish they eat from Lake Michigan died. PCBs affect reproduction in some animals, even at 5 ppm. Even at 2.5 ppm, it affects monkeys."

"But, those are much smaller animals than people. Fish make up a much smaller part of the diet for people."

"If an average-sized human male eat half a pound of fish at 10 ppm per meal, it would take 60 weeks for him to reach what is set as the tolerable level in a thousand days," Hesse said.

He said perch, walleyes, whitefish.

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bass and many other fish show low levels of PCBs. Carp have high levels. And, PCBs may not be the only problem.

"There are many chemicals in the environment that we can't even screen for them all," Hesse said. "It could be something we haven't even thought of" that is causing the fishery problems. "A combination of chemicals with PCBs is a good possibility."

On the Pere Marquette River, a guide and longtime fisherman reported finding large numbers of dead brown trout in the fall while the salmon are spawning. The browns feed heavily on salmon eggs. He thought contaminated salmon eggs might be killing them.

"The probability of it being caused by PCBs is very slim," Hesse said.

"Salmon eggs test at about 10 ppm and

it would surprise me if that's a toxic dose."

PCBs get into the lakes through water and through the air. As much as 80 per cent comes through the air, Hesse said.

"At old landfills where junk was burned, a lot of PCBs got into the air," Hesse said. "That asbestos paper that's reproduced widest a carbon is high in PCBs. Burned paper put a lot into the air," Hesse said.

He said on July 28, 20,000 pounds of PCBs got into Lake Michigan.

"I think that problem poses a threat to our Great Lakes fishery. When our fish exceed that lower FDA limits for PCBs, can we continue to expose fishermen to contaminants?"

He suggested warning printed on the Michigan flag.

The FDA tolerances only so fish being sold. A PCB citizen can eat all

he wants. In 1971, the state warned fishermen that one meal per week ought to be the limit, but little has been said since then.

If the FDA level is lowered to 2

ppm, "virtually all species would be unmarketable and the Great Lakes commercial fishery would be dead,"

Madhusudan P. Reed of the Department of Interior said. Rep. Philip E. Ruppe, R-Birmingham, said, "I'm concerned about people who may be sitting on a bag of dynamite. We don't know what's tolerable, or how we can get PCBs out of their system."

"I would say that any level of PCBs is potentially harmful to humans," Ruppe said.

A bill in the Michigan Legislature would outlaw the use of PCBs in the state. However, it would do little for Lake Michigan, because airborne contaminants would come from the west on the prevailing wind.

PCBs apparently have had no known effect on other animals in Michigan. "I don't know of any problems," said a DNR wildlife biologist.

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