PCB: How Serious A Peril?

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LANSING—First came DDT.
Then mercury.
Now, a new and even more mysterious threat in our environment—PCB.
James Kellogg, top pollution-fighter aide to Gov. Milliken, sighs and says:
"There are a lot of unknowns. And, slowly, we're finding out about them."
Just as we are learning about one threat to our environment, and how to cope with it, another pops up.
The crisis over Lake Michigan salmon and other fish containing PCB—which long name describes a poisonously chlorinated biphenyl—leaped into headlines and warnings last week.
THE CHEMICAL compound, used in a wide variety of industrial products, was found in coho salmon at levels higher than those recommended for human safety by the federal Food and Drug Administration.
A high concentration of PCB taken by humans, as occurred in Japan, can cause liver disease, jaundice, nausea, loss of weight and stomach pain. It can even be fatal. But federal officials are still unsure about safe limits of consumption and have based their current level — five parts per million — on tests conducted with rats.
So far, PCB has brought no major catastrophe to Michigan. This is how things stand:
● State health officials have no reports illness or death resulting from consumption of fish or other products containing the chemical.
Fish or other products containing the chemical.
● Sportsmen have been told the state's new

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PCB Is Latest Peril--Not Last

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multi-million-dollar salmon fishing spree can continue.
● State health officials have cautioned against eating Lake Michigan salmon or other sport fish more than once a week, and have issued a special consumption warning to pregnant women.
● Lake Michigan waters are still safe for swimming, boating and other recreational activities.
But once again, the environment has been damaged, and the extent is not known.
STATE OFFICIALS still have many fish species to test for PCB. There are hints, but as yet no direct evidence, that ducks, geese and other waterfowl could be hurt by eating small fish contaminated with PCB.
The Lake Michigan salmon tested for PCB turned up with an average of 11 parts per million of the chemical. The FDA had set a human safety guideline of 5 ppm.
Federal officials who came here Friday to advise the state admitted they don't know everything they'd like to know about PCBs.
"The full toxicology is not in on PCBs," said the leader of the group, Ree Duggan, a top FDA official. Problems with the chemical and solutions at this stage are "hard to define," he added.
Rachel Carson had warned the public about DDT—pesticides—and every housewife, gardener and farmer had used DDT before it became a known threat.
Every schoolkid with a broken thermometer knew what mercury was before its presence temporarily closed Lake St. Clair to fishing over a year ago.
But the sudden announcement of the presence of PCB in the cohn seemed doubly threatening because few had ever heard about the chemical.
From state and federal officials last week some answers about PCB could be culled. Here are some:
Q. What is PCB?
A. A complex mixture of biphenyl compounds that are inert, won't burn, resist acids, and are very stable under long heating. The compound is highly durable and is used as an additive to provide durability in other liquids.
Q. How are they used?
A. As stated in a report in Gov. Milliken's office: "The largest single use of PCB is related to their electrical properties — as coolant-insulation fluids in transformers. Other uses include formulation into ballasts for fluorescent fixtures; impregnation of cotton and asbestos for braided insulation of electrical wiring; a plasticizer in wire and cable coatings; capacitors and . . . transformers; and plasticizers of vinyl chloride polymer films.
"Because of their thermal stability, PCBs also find application in high-pressure hydraulic fluids, specialized lubricants and gasket sealers, heat transfer agents, and machine tool cutting oils. Miscellaneous uses include: formulation into some epoxy paints, protective coatings for wood, metal, and concrete, adhesives, and in carbonless reproducing paper."
Q. Who makes it?
A. In the U.S., only the Monsanto Co., which markets it under the brand name "Aroclor." Federal officials say Monsanto is now only selling Aroclor for use in processes closed off from the rest of the environment.
Q. Who uses it in Michigan?
A. Again, quoting the report to Milliken's office: "PCBs are present in the auto industry, metal working industries, steel mills in Michigan, General Motors and Ford are known to have stopped buying PCBs."
Q. How does it get into the water?
A. Through industrial spills, as happened in Newton Creek, Texas, or through use, general pollution or deterioration of materials containing PCBs. The Muggy River and the Saginaw River have been found to contain 200 parts per trillion of PCB. When fish ingest it, PCB becomes much stronger, especially in their fatty tissue.
Q. If its use is being curtailed, why doesn't it dissipate in Lake Michigan?
A. Like mercury, it will, but like mercury, that will take a long time, how long no one knows.
Federal officials are now exploring substitutes for PCB. But, at the same time, those who came to Lansing were reluctant to offer Michigan much more than advice. "This is a state problem," said one of the federal visitors.
Milliken has taken a strong stand that such problems are not isolated state-by-state across the country, and that individual states don't have the money or facilities to deal with them separately.
Milliken has strongly urged the creation of a national research and registration center that would evaluate and test all chemicals.
DDT is an example. The coho found to have too-high levels of PCBs also had levels of DDT above the five DDT ppm guideline established by the FDA.
But Michigan and the other Lake Michigan states of Illinois, Indiana, Wisconsin and Minnesota have disputed the DDT guidelines. Based on research in Michigan, state health officials have been trying to persuade food and drug officials that a level of 15 ppm of DDT for Lake Michigan fish would be safe for human consumption. The issue has not yet been resolved.
No such controversy exists about PCBs. Based on the information available, state officials agreed that the federal guideline levels are realistic.
Now, further testing and advice from state officials are due as they strive to learn more about PCBs and their effect in Michigan.
WHAT NEXT, what new threat after PCBs?
Under Michigan's new truth-in-pollution law that requires industries to report what pollutants they are using, the state will have a welter of new information, Kellogg says.
Already, state officials have found evidence of zinc and other toxic metals in fish, water and the environment, but all at levels below federal guidelines, he noted.
"We're paying a price for being on top of the situation," Kellogg said in the wake of the PCB crisis.
A year ago, at the end of the mercury crisis, one state official said: "There are no (other) areas right now where we have immediate concerns, but last year we had an immediate concern about mercury ourselves."
Now PCB.