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'Alarming' levels of PCB found in fish, ban sought

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The state Department of Natural Resources says "alarming" levels of the industrial chemical PCB have been detected in Lake Michigan trout. Other fish and birds have either died or suffered reproductive failure.

A DNR staff report, presented to the Natural Resources Commission Thursday, said efforts to rid the environment of polychlorinated biphenyl had been largely ineffective because the levels of the chemical have actually increased in some fish.

DNR Director Howard Tanner said PCB damage to fish had reached such serious proportions that his agency would begin pushing for a total ban on the use of the chemical.

The Lake Michigan Toxic Substances Committee, with representatives from Michigan, Indiana, Illinois and Wisconsin, already has asked the U.S. Environmental Protection Agency to push for a nationwide ban on the use of PCB.

The DNR report also said the chemical has been detected in snowfall in Wisconsin and that proper disposal techniques are not being used.

Although levels of DDT and mercury in Great Lakes fish are rapidly declining, the DNR report said PCB has been found in increasing concentrations in lake trout in recent years.

"The concentrations in lake trout are alarming because of what now appears to be an increase in concentrations over the three-year period," the report, authored by water quality expert John L. Hesse, said.

The U.S. Food and Drug Administration has begun seizing shipments of Lake Michigan fish on grounds that PCB concentrations exceed the agency's guideline of 5 parts per million.

The federal agency also has seized Michigan fish because of high concentrations of an insecticide called dieldrin.

PCB is a group of compounds used in many industrial processes as a hydraulic fluid, heat transfer fluid, insulation in electrical transformers and other forms. The sole U.S. producer is Monsanto Chemical Co.

"A serious situation exists with respect to populations of fish-eating birds in the Great Lakes area," the DNR report said. "Severe reproductive failure has been identified in herring gull colonies around Lake Ontario."

Hesse said PCB has been identified as the culprit responsible for high mortality and disease rates among newly hatched birds in the Great Lakes area.

Reproductive failures in northern pike and in Lake Michigan salmon have been traced to the chemical as well, he said.

Hesse cited "considerable environmental damage and economic impact of PCB contamination, an absence of any apparent decline in environmental concentrations" with current control methods, the ubiquitous nature of usage, the general lack of adequate disposal facilities and the indication that atmospheric transport and deposition is also significant."

Levels of PCB in coho salmon and chubs have increased only slightly in the last three years.

DNR Fisheries Division Chief Wayne Tody said PCB-tainted lake trout is "being eaten every day," primarily by sports fishermen. He added that "a lot of the fish that are questionable on the PCB levels have probably been marketed." State health officials said the problem has not yet been brought to their attention.

Turney said the EPA may not be able to act because of statutory limitations on its authority.

Turney did not rule out the possibility products containing PCB could be allowed while meeting federal regulations.

PCBs are chemically associated with DDT. When PCB was first unmasked as a contaminant in 1969 it was found in concentrations of up to 200 parts per million in catfish in the Saginaw Bay area.

Tests on Rhesus monkeys at the University of Wisconsin showed the animals were "sensitive" to PCBs at levels below the FDA limits.

But Turney emphasized, "That data is not validated and it doesn't mean that humans are sensitive at that level or anything like that."

A survey of 36 Michigan industries in 1974 confirmed that its use is diverse, 70 different products being identified as containing PCBs. It proves that the restrictions have not been effective in lowering the contamination, Turney said.

Surveys of about 60 municipal wastewater treatment plants show that effluent from such plants is the major "point source" of PCB discharges to surface waters, Turney reported. The PCBs go to municipal plants in waste from industry, Turney explained.

Most large dischargers, however, have been to Lake Huron, Lake St. Clair and Lake Erie, he said. Discharges to Lake Michigan are small, but diffuse, Turney said, and are difficult to trace by current techniques.

One of the serious problems posed with regard to ridding the environment of PCBs, Turney reported, is the difficulty of disposing of fluids containing PCBs.

It requires at least 2,600 degrees of heat for four seconds to incinerate PCBs, he explained. And scrubbing devices must be attached to clean the air of hydrochloric acid in the product of such combustion. No incinerators have been cleared in Michigan for PCB disposal, he said.

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