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Dangerous Chemicals Pose Fishing Problem

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While DDT levels have declined in Lake Michigan and mercury is down in Lake St. Clair, polychlorinated biphenyls (PCB) and dieldrin levels are going up in some species of Lake Michigan fish.

William Turney, chief of the Bureau of Water Management, told Natural Resources commissioners Thursday that large lake trout and salmon are well over the 5 parts-per-million (ppm) Food and Drug Administration guideline.

AND DIELDRIN, a pesticide which has averaged just below the 0.3 ppm FDA limit on lake trout and chubs during recent years, was over the limit in five of six recent shipments of chubs seized by the FDA.

Meanwhile, new toxicological data shows that PCB diets had adverse affects on rhesus monkeys, that commercially-raised mink failed to reproduce when fed beef containing 0.64 ppm, and that herring gulls and northern pike also were affected, he said.

PCBs are industrial hydrocarbons used by 30 U.S. industries. The Monsanto Chemical Co. is the sole U.S. producer and agreed earlier to stop producing the chemical for uses that could lead to contamination.

DIELDRIN, LESS publicized than DDT, which was banned by the Michigan Department of Agriculture in 1969, was suspended from further production except for three minor uses by the U.S. Environmental Protection Agency (EPA) last August. But existing stocks can be used.

Aldrin, another insecticide, breaks down into dieldrin in the environment, Turney explained. Aldrin production also was suspended except for termite control, root-dip for nonedible crops and moth-proofing.

"In the past two or three years use of these two chemicals has declined in the Lake Michigan Basin since they were placed into restricted use categories by Michigan and Wisconsin, and extension agents have been recommending alternatives," he noted.

BUT THE PCB problem is baffling scientists. They see a complete ban on production of the compounds as the only solution, Turney said.

"The concentrations in lake trout are alarming because of what appears to be an increase over the three-year period from 1972 through 1974," he stressed.

The analysis by the U.S. Fish and Wildlife Service showed lake trout went from 12.5 ppm in 1972 to 19 ppm in 1973 and 23 ppm in 1974.

AFTER MAJOR sources of PCB losses had been halted through voluntary action by industries and Monsanto had voluntarily discontinued sales, the DNR staff assumed PCB contamination of fish would begin to decline — as did DDT and mercury, Turney explained.

However, the PCB problem is complex — remaining discharges are small, diffuse and difficult to trace by current monitoring techniques, he said. And PCB residues in fish and wildlife from remote areas suggest aerial transport may play a significant role in distribution.

"The Wisconsin DNR analyzed snowfall samples in five municipal areas and found PCB concentrations," he revealed. "Considering dry fallout, rainfall and snowfall, it appears that atmospheric contributions of PCBs to Lake Michigan could be very significant."

"IT IS also probable that many other industries are using PCB-containing products but are totally unaware of their presence," Turney pointed out.

Disposal of PCBs requires incineration at 2,000 degrees Fahrenheit for at least four seconds and scrubbers are required to remove hydrochloric acid, a combustion product, from the stacks.

"No incinerators in Michigan have been cleared for routine PCB disposal," he stressed "The same situation exists in other Lake Michigan states.

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