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Reveal Survey Findings

By PEYTON SMITH
and JEAN LANG
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MADISON, Wis. (UPI) — Polychlorinated biphenyl levels as high as 50 parts per million have been found in some Lake Michigan salmon and trout recently. Even young fish may have levels in excess of 15 ppm, according to Paul Degurse, microbiologist with the Wisconsin Department of Natural Resources. These PCB concentrations are well above the safe level of 5 ppm set by the U.S. Food and Drug Administrtion.

PCBs are chlorinated hydrocarbons similar to DDT. However, PCBs are not used as pesticides but rather as industrial compounds.

Degurse, who discovered the high PCB levels, has been studying chlorinated hydrocarbons in Wisconsin fish for 10 years. He and other researchers first noticed the presence of PCBs several years ago when analysing fish for DDT content.

At that time the State Department of Health warned Wisconsin fishermen to eat no more than one meal per week of fish caught in waters with known high levels of PCBs. And in 1971 Gov. Patrick J. Lucey ordered a halt to the commercial sale of some Lake Michigan fish that contained high PCB levels.

"Since then, the PCB problem in Lake Michigan has worsened," Degurse said. Most large lake trout now have levels in excess of 5 ppm, Degurse reports, though he also notes that some Lake Michigan coho salmon analysed are below the 5 ppm mark.

Part of the reason that PCBs are such a problem is that they do not break down very rapidly and remain in the biological environment a long time.

"Consequently, their persistence probably makes them much more toxic than DDT," Degurse said.

But just how much more toxic is not fully known. Monkeys and mink, given steady diets containing PCB concentrations of less than 5 ppm, suffered from reproductive failures and other abnormal conditions. Mink fed a diet containing 2 ppm of PCBs for 90 days died. In addition, PCBs are suspected of causing egg shell thinning and abnormal offspring in some birds.

Degurse said there are marked differences between the toxic levels for one species and another. Nevertheless, he feels that PCBs would probably damage the health of anyone making a steady diet of Lake Michigan fish over a long period.

Though PCBs can be partially eliminated from fish by removing the fatty tissues, Degurse warns that some samples of Lake Michigan fish had high PCB levels even after being gutted and cleaned.

There are many sources of PCBs. They have been used in this country since the 1930s as insulating fluids, plasticizers, adhesives and in fire resistant electrical fluids and hydraulic fluids. One-hundred tons of the substance were manufactured and distributed in various forms before the magnitude of PCB pollution became apparent.

Monsanto Chemical, Ltd., the sole PCB manufacturer in the U.S., voluntarily cut back its sales in 1970. PCBs are now used only in closed systems by the electrical industry. However, other countries are still manufacturing this substance.

"The way PCBs were used 10 years ago, you would have thought the materials were as safe as water," Degurse said. "PCBs make good plastic coatings for everything from seat covers to copy paper, and that's the problem. When you use PCBs in everything and then throw everything away, you end up with PCBs leaking out all over. We have never found a fish in the state of Wisconsin that did not contain some PCBs.

In Lake Michigan PCB levels are still going up," Degurse said. "But we don't know if it is because of PCBs that entered the lake 20 days or 20 years ago." Degurse adds that the picture may look worse because of our increased knowledge of PCB effects and our better methods of detexting it.

One of the largest sources of PCBs appears to be paper mills that are recycling PCB-coated papers. Other sources are seepage from land-fill sites, leaking hydraulic fluids and airborne dust containing PCBs. Because the pollutant can enter the lake in so many different ways, effluent discharge standards will not solve the problem, Degurse said.

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