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State PCB Ban Urged

Chemicals Found In Lake Fish

High levels of polychlorinated biphenyls (PCBs) in large salmon and trout from the Great Lakes have resulted in the Natural Resources Commission urging the Legislature to ban the use PCBs.

The regional director of the federal Environmental Protection Agency also was urged to push for a nationwide ban on the sale, use and distribution of PCBs.

Water Management Bureau Chief William G. Turney told the Natural Resources Commission last month that the PCB levels in "large salmon and trout" remain well over the 5.0 parts per million (ppm) allowable in the guidelines set by the Food and Drug Administration.

Analyses by the U.S. Fish and Wildlife Service's Ann Arbor Laboratory show that the PCB level in lake trout went from 12.5 ppm in 1972 to 19 ppm in 1973 and 23 ppm in 1974.

Fish-eating birds are also affected. Severe reproductive failure has been identified in Lake Ontario herring gull colonies; there have been unnaturally high mortalities of gulls in recent years from Saginaw Bay and Grand Traverse Bay, and an analysis of a dead herring gull from Grand Traverse

Bay showed a high amount of PCBs in the bird.

Commercially raised mink fed Lake Michigan salmon have had reproductive failure, and in another study mink fed a beef diet including PCBs did not reproduce. PCB contamination in eggs of spawning northern pike was the probable cause of high fry mortality in early stages of development.

Like DDT, PCBs are fat soluble and are concentrated in the fat of fish. Sport fishermen in other states have been advised to eat no more than one meal a week of fish suspected of having PCBs. Wisconsin authorities cautioned that pregnant women and children should eat no more than an average-sized serving of such fish a week.

Fish found to contain more than 5 ppm of PCBs are lake trout, brook trout, coho and chinook salmon more than 24 inches in length.

The effect of PCBs on humans is not certain, but PCBs have proved harmful in tests on monkeys.

The FDA has seized some shipments of Lake Michigan fish because of the high levels of PCBs, and the presence of the contaminants in salmon could stall

state consideration of selling excess salmon.

PCBs are a group of compounds used in a diverse number of industrial compounds and processes, including fire-resistant hydraulic fluids, heat transfer fluids, insulation in electrical transformers and capacitors, as plasticizers, and specialty inks in certain paper products.

The Monsanto Chemical Co., the sole U.S. producer of PCBs, restricted PCB sales to those used as transformer and capacitor dielectric fluids, but these restrictions have been ineffective in curbing PCB contamination, according to Turney.

Thirty-nine Michigan industries report using the PCBs in 20 different products. To destroy PCBs, the material must be subjected to temperatures of at least 2600 degrees Fahrenheit for four seconds, but no incinerators in Michigan have been cleared for routine PCB disposal.

According to Turney's report, surveys indicate many industries add PCBs to other waste oils and dispose of them through waste haulers, and some apparently use PCB fluids for dust control on roadways and parking lots, store them in drums or burn them in

unapproved incinerators or boilers.

PCBs have even been found in snowfall in Wisconsin, indicating the material is carried through the air. Many PCB discharges are small, but diffuse and difficult to trace by current monitoring methods.

The report stated that the EPA should urge financial support of additional studies on PCB effects on primates with an emphasis on relating the significance of results to potential hazards to humans concerning PCBs through the food chain.

Here are some of the points summarized in the report:

FDA has recently taken seizure action against a few shipments of Lake Michigan fish.

A new Lake Michigan Toxic Substances Committee was formed to assess the PCB situation and to make recommendations to EPA.

Adverse PCB effects, primarily reproductive failure, have been documented in northern pike, fish-eating birds, and in mink fed Lake Michigan salmon.

PCB monitoring shows PCB contamination is so ubiquitous at low levels difficult to trace back to sources of input.

PCB disposal methods are

inadequate and improper disposal practices are common.

PCBs are present at significant concentrations even in snowfall. Lake Michigan Toxic Substances Committee recommendations to EPA stressed the need to search for safe alternatives for PCB uses and the implementation of a nationwide ban on PCB sale, distribution and use.

Other recommendations were for states to implement extensive educational programs for safe use and handling of PCBs during the interim period leading to a ban. Trend analysis of contamination levels should be continued.

The report also stated: DDT in Lake Michigan fish continues to decline and is now above the 0.5 ppm FDA guideline only in large lake trout.

Mercury levels have dropped below the 0.5 FDA guideline in most Lake St. Clair area fish but remain above the limit in walleyes.

Dieldrin, which has averaged just below the 0.3 ppm FDA guideline in Lake Michigan lake trout and chubs for years, was over the limit in five of six recent shipments of chubs seized by FDA. Dieldrin and aldrin production recently have been suspended by EPA.