SUNDAY HERALD-TIMES
BLOOMINGTON, IND.
(D) 37,800

SEP 7 1975 (CLIPPED BY BACON'S)

7800

PCB pollution poses eco-threat

By DON JORDAN
H-T Outdoor Editor

environment

There are some pollutants that sneak up on us and others that we are aware of only when it begins to be too late to act.

The current furor of poly-chlorinated biphenyls (PCB's) is a good example of one pollutant that America has been aware of for some time with action to halt discharge only now beginning.

PCB's were pretty much of an unknown factor in water pollution until the late 1960's and early 1970's. At that time, the New York State Department of Environmental Conservation knew about PCB's. And, even though New York was aware of serious problems associated with this chemical, no action was taken to halt dumping of it in the Hudson River.

THEN, IN EARLY AUGUST of this year, the *New York Times* reported that consumers had been warned to avoid eating striped bass from the Hudson River and salmon from Lake Ontario because of dangerously high levels of PCB's in these species..

The New York warning was issued by Ogden R. Reid, commissioner of the New York conservation agency: "I don't want to be an alarmist, but this is a question of public health."

PCB's have entered the Hudson River since 1942. General Electric, according to a Sept. 1, report in *Sports Illustrated*, "has been dumping them into the Hudson, an average of 30 pounds a day since 1971, 90 pounds on some occasions . . . the largest nonaccidental release of these poisons yet discovered in the U.S. and possibly the world."

G.E. USES THE CHEMICALS in the manufacture of electrical equipment. The PCB's are used by other industrial firms throughout the world because of their high resistance to heat. PCB's are toxic to most animals, including humans, and according to studies at the University of Wisconsin, Michigan State University and Japan, PCB's can cause miscarriages and stillbirths when taken in large doses.

Since PCB's are so indestructible, environmentalists worry that these chemicals may be more environmentally damaging than DDT. In fact, the more highly chlorinated PCB's are "essentially unalterable in microbial or physical chemical action in the environment."

This indestructibility delights industrialists, however, and products made using PCB's include everything from hydraulic brake fluids to printing products (carbonless carbon paper and paper coating).

IN 1971, MONSANTO, the world's largest single producer of PCB's announced it would restrict sales to "closed cycle" system in transformers and capacitors. Unfortunately, PCB's were already in the eco-system to stay.

Dr. George Harvey of the Woods Hole Oceanographic Institution says PCB's enter the environment from sewage outfalls, industrial and municipal wasts, leaching from dumps and the burning of refuse.

"The atmosphere is the major pathway of global transport," says Harvey. "PCB's have been found in all organisms analyzed from the North and South Atlantic oceans, even in animals living under 11,000 feet of water . . . Based on available data it seems safe to conclude that PCB's are present in varying concentrations in every species of wildlife on the earth."

THE AMOUNT OF PCB concentration is what causes concern.

Current U. S. Food and Drug Administration (FDA) standards say that any food containing more than five parts per million (ppm) of PCB is unsafe to eat.

Rock bass in the Hudson River were found to contain 350 ppm of PCB. Salmon from Lake Ontario were found to contain between 15 and 20 ppm of PCB's.

In Lake Michigan, where fish and wildlife people have claimed overwhelming success in establishing coho salmon populations, coho have been found to contain PCB's at a level of from 7.0 ppm to 9.2 ppm. The U.S. Food and Drug Administration has ordered canned Lake Michigan coho seized because of high concentrations of PCB's.

WISCONSIN LIEUTENANT GOVERNOR Martin J. Schreiber wrote to A. Gene Gaziay of the Michigan Department of Natural Resources in 1974: "There exists now a problem with contaminants in Lake Michigan that has the potential of destroying both sport and commercial fishing in all the Great Lakes. This situation could turn any efforts to develop the lake as a future protein source into a futile and frustrating endeavor."

In fact, reports Robert H. Boyle in the *Sports Illustrated* report, health authorities have advised anglers not to eat salmon or trout from Lake Michigan more than once a week.

So what does a PCB do to animals, including humans?

Boyle reports a Japanese disaster in 1968 where 1,000 people developed *Yusho* disease when they used rice oil containing an estimated 2,000 ppm of PCB's. The PCB's leaked from a pipe during processing of the rice oil. Disease symptoms included eye discharges, severe acne, ulcers of the uterus and darkening of the skin. Pregnant women suffered miscarriages and stillbirths, and surviving infants suffered from abnormal pigmentation as the result of transplacental transmission of PCB's.

THERE IS NO DATA at this time to suggest that eating fish from the Hudson or Lake Michigan has caused either illness or death, but interpretation on PCB's is so scanty that physicians seldom check for their presence in patients. The dolphins on the other hand, attributed 16 deaths to PCB last winter.

Monkeys at the University of Wisconsin were fed 25 ppm of a concentrated PCB compound in their food for six months. They developed facial swelling, loss of hair, and acne lesions within a month. One monkey died from PCB intoxication two months after going off the experimental diet.

IN ANOTHER TEST, a group of monkeys was fed 2.5 ppm of PCB in food for six months. Another group was fed food containing 5 ppm of PCB. Four of six pregnant female monkeys in the 5 ppm group aborted or resorbed the fetus, one gave birth to a stillborn infant and one to an undersized infant. The 2.5 ppm group of eight monkeys experienced similar problems — three resorbed the fetus and five gave birth to undersized offspring.

The U.S. Environmental Protection Agency (EPA) estimates that 99 per cent of the human population in the U.S. now contains one to three ppm of PCB's in fatty tissues.

PCB's have residual effects like DDT except that the PCB's last longer in an animal's system. Analysis of liver and brain from a dead herring gull from Grand Traverse Bay in Michigan in 1973 showed the presence of 2,500 ppm of a Monsanto PCB. The tests were when officials observed a higher than usual mortality rate among the gulls.

BLOOMINGTON MAY OR may not have a PCB pollution problem.

City utilities department chemist Rick Peoples reported that work is now underway to establish a standard sample for PCB testing. He said city water supplies and area streams would be tested for the presence of PCB's within a month. Essentially the same testing procedure is used for PCB tracking as is used in testing for the presence of DDT

MONS 033545