MONS 032597

NOV - 5 1975

The Sunday Record

Vol. 31 — No. 127 | 224 PAGES — 6 Sections | NOVEMBER 2, 1975 | Serving New Jersey and New York from HACKENSACK, N. J. 07601 | 30 CENTS



Spectators urge Northern Highlands Regional High School gridders on to victory against Wayne Hills yesterday as team won 20-16. High school football on Pages C-1 and C-2.

Why PCB spells peril

By JOHN WALCOTT
The Record Washington Bureau

WASHINGTON — Just south of Lake George, where the newborn Hudson River spills out of the Adirondacks, there are two factories. They are owned by the General Electric Co., and they manufacture electrical equipment.

Since 1952, the factories, at Fort Edward and Hudson Falls, have been dumping chemicals called polychlorinated biphenyls, or PCBs, into the river.

Although the dumping is perfectly legal, it has polluted the Hudson River at least as far south as the Tappan Zee Bridge. It has contaminated most, if not all, of the fish that live or spawn in the great river. Because of the PCBs, the Hudson probably will be closed to fishing for many generations, perhaps forever.

That is not all. PCBs have been found in fish taken from the Great Lakes, the Ohio and Mississippi Rivers, and the Atlantic Ocean. New evidence suggests that the chemicals are far more dangerous than anyone believed, and the Food and Drug Administration (FDA) now is debating whether to tighten its standards for PCBs in fish, now fixed at five parts per million.

Tougher standards could virtually end striped bass fishing along the mid-Atlantic coast, and might endanger commercial fisheries in the Atlantic and Great Lakes as well. The situation is, in the words of Karim Ahmed of the National Resources Defense Council, an environmental nightmare.

Related to DDT

PCBs belong to a family of chemical compounds called halogenated hydrocarbons. They are colorless, viscous fluids, and they are related to DDT and to the fluorocarbons which some scientists believe are destroying Earth's protective blanket of ozone. They are manufactured by one firm, Monsanto Industrial Chemicals Co. PCBs are extraordinarily resistant to heat and to chemical and physical stresses, which makes them extremely useful in the manufacture of electrical transformers and capacitors. They are used in hydraulic systems, in vacuum pumps, as plasticizers in paints and plastics, and in many other applications.

Unfortunately, PCBs are also extremely resistant to breakdown in the environment. Once they are released into the air or water, they remain there for years, perhaps for centuries. They are carried by winds around the world, and they have been found in the tissues of Eskimos living in the Arctic Circle.

Because they are insoluble in water, PCBs tend to concentrate in the bottom sediment of lakes and streams. From there they may find their way into algae or other plants, or into fish, who may eat the algae or simply absorb the PCBs out the water. In fish or other animals, PCBs, like their cousin DDT, burn, lubricants, and waterproofing chemicals. It also makes them virtually impossible to destroy; the only

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Dumping continues

The PCB nightmare

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accumulate in fatty tissues. Like DDT, they are deadly.

In 1968, researchers found that fish which were thought to be suffering from DDT poisoning actually were contaminated with PCBs. In Japan in 1968, more than 1,900 people who used rice oil containing PCBs that had leaked from a factory pipe developed a disease the Japanese named Yusho. The symptoms included severe acne, ulcers of the uterus, fiver problems, miscarriages and stillbirths, and disfigurement of newborn infants. PCBs subsequently were banned in Japan.

In the United States, PCBs first became an issue three years ago, after a task force declared them a health hazard and the Food and Drug Administration declared that fish containing more than five parts of PCBs per million were unfit for human consumption.

One part per million is equivalent to one inch in about 16 miles.

After the task force report was issued, Monsanto voluntarily cut its production of PCBs from 85 million pounds a year to 40 million pounds, and stopped selling them to all but 60 customers. Federal officials, however, suspect that customers cut off by Monsanto now are getting their PCBs from producers in Europe.

But Monsanto's cutback did little to cut levels of PCB pollution, and now scientists are beginning to gather evidence that strongly suggests that the FDA standards are far too lenient. The Record has learned that the agency now is debating whether it should tighten the standard for fish to one part per million or less.

So far, the strongest evidence supporting a tougher standard comes from the University of Wisconsin's Primate Research Center, where rhesus monkeys who were fed diets containing 2.5 parts per million of PCBs lost hair from their faces and necks, developed severe acne, and gave birth to undersized offspring. The scientists in charge of the study say that humans given the same dose of PCBs over the same period probably would develop similar problems—a fact that is significant when you consider the Environmental Protection Agency's estimate that 95 per cent of the American people now have one to three parts per million of PCBs stored in their fatty tissues.

If the FDA does decide to lower the boom on PCBs in fish, the effect will be felt nationwide, but the impact will be most severe along the Atlantic coast from Massachusetts to Delaware Bay and in the Great Lakes. Some experts fear that the striped bass industry would virtually be wiped out, because perhaps half of the stripers in the region spawn in the Hudson, where they are exposed to high concentrations of PCBs. To fishermen, or to anyone else without a laboratory in his basement, for that matter, fish contaminated with PCBs are indistinguishable from fish that are safe to eat.

If other species of fish also prove to be contaminated, the consequences could be even more dire. Menhaden, for example, are a prime ingredient in chicken feed.

Early this year, the FDA seized a shipment of fish oil that was to have been used as a dust-arresting agent in animal feed. Some experts now worry that the entire food chain from rivers to fish to animals to humans may be poisoned with PCBs.

The New Jersey Department of Fish, Game, and Shellfisheries, a part of the Department of Environmental Protection, has quietly begun a sampling program to determine whether fish caught off the state's coast and in its estuaries are contaminated with PCBs. So far, however, the samples are waiting patiently in a freezer because state budget cutbacks didn't leave enough money for a technician to run the tests at the Health Department's pesticide laboratory. In addition to striped bass, the state will be looking for PCBs in young bluefish, white perch, flounder, shad, and herring.

But while the grim evidence was mounting on two continents, the federal Environmental Protection Agency and the New York State Department of Environmental Conservation were sitting on their hands.

Only this summer—three years after an interdepartmental task force concluded that PCBs were persistent, pervasive, and dangerous—did a bureaucrat somewhere decide it was time to do something. The man was Ogden Reid, the new head of New York State's environmental agency, and he ordered General Electric to stop discharging PCBs by next September. Reid also warned New Yorkers not to eat striped bass from the Hudson or coho salmon from Lake Ontario. In addition, the state wants G.E. to study whether it is possible to clean up the contaminated river. To a man, the experts fear that it is not. Hearings on the state's orders will begin Nov. 10.

The federal Environmental Protection Agency, meanwhile, has made one feeble stab at controlling the PCBs: issuing permits that would require G.E. to cut its discharges of PCBs to 2.88 ounces a day by 1977. However, on Sept. 26, 28 days before the permit was to take effect last January, G.E. asked for a hearing. Under the law, the permit had to be delayed until after the hearing. As of Sept. 30, the two plants were pouring 1 to 5 pounds of PCBs into the Hudson every day.

EPA no standards

But while the EPA's New York office at least took a shot at the problem, the agency's Washington staff has devoted most of its energy to avoiding the situation. Although it has been ordered to develop regulations limiting discharges of substances that endanger the nation's air and water, the EPA still has no standards governing the dumping of PCBs or other dangerous chemicals. Agency spokesmen now say standards will be forthcoming next February.

But even without new standards, environmentalists argue, the EPA could have used its emergency powers to halt discharges of PCBs.

The agency's official response is that the proposed Toxic Substances Control Act, which has been gathering cobwebs on Capitol Hill, would give the EPA the needed authority to deal with the problem. Glenn E. Schweitzer, director of the EPA's Office of Toxic Substances, says the key to the act is a provision that would give the agency the authority to test new chemicals before they are marketed.

But even those controls—which are not likely to clear Congress this year—will not clean up the Hudson River. It would appear that no power on Earth can do that now.

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