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PCBs blamed. Just what are they?

Consumers stirred, confused over Michigan trout ban

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(Reporter Outdoor Editor)

The ban this month by the Wisconsin Natural Resources Department on the sale of Lake Michigan trout for human consumption because of excessive PCB levels has caused quite a stir — and confusion — among consumers.

But it also stresses the need for fast action by Congress on this matter.

Actually, an amendment to the Toxic Substances Bill by Wisconsin's Sen. Gaylord Nelson was adopted in the Senate on March 26. Action in the House is being waited on similar legislation, though it has not yet reached the markup stage.

In general, the legislation would curb industrial uses of PCBs except where there is no unreasonable risk of their introduction into the environment.

In regard to his bill, Sen. Nelson said, "If we are to protect the waters of this nation for sport and commercial fishing, we must immediately ban the discharge of PCBs into the water courses. Our objective in this and other action must be to restore the nation's water to an acceptable level of quality."

Now, just what are PCBs?

They are a class of chemical compounds produced by chlorinating the biphenyl molecule. Formerly, they are known as "polychlorinated biphenyls," really a mouthful to say, and thus the more common usage of the initials, PCBs.

Primarily, PCBs are used in the manufacture of electrical equipment, but prior to 1971 they were utilized in pesticides, carbonless copy paper, inks, lubricants, hydraulic fluids and adhesives.

They are stable use of because they resist heat, oxidation, acids and other chemical agents, and they are good electrical insulators. PCBs can be absorbed rapidly into plastic and glass surfaces.

Almost indestructible, PCBs that previously leaked into the environment have persisted there, to the consternation of environmental groups. Continued industrial discharges and disposal of the compounds are responsible for the high levels in the Hudson River, for example, and in other major waters, including Lake Michigan.

It was on May 15 that Anthony Earl, secretary of the DNR, told Wisconsin's commercial fishermen that tests disclosed PCB levels in excess of recommended safety norms by the Federal Food and Drug Administration.

Earl instructed DNR personnel "to cease all sales" of trout flesh "for human consumption and to find alternate outlets for disposal" of trout caught in fishing boat nets.

Ron Poff, fishery supervisor for the DNR, said at the time that should the FDA tighten its allowable limit of five parts of chemical pollution per million parts of water, "we can just about write off the commercial fishery."

Canada recently set a limit of two parts per million. If the FDA follows suit, Poff said, "about the only fish that could be marketed from Lake Michigan would be smelt, alewives and some perch.

The Lake Michigan commercial fishing industry represents approximately 770 jobs in Wisconsin. There are about 50 similar jobs linked to Lake Superior, and some 150 more in the Wisconsin waters of the Mississippi River.

How dangerous, actually, are PCBs in humans?

They have been found to cause severe skin and liver problems in tests involving humans. Medical researchers at the University of Wisconsin have demonstrated that very low levels of PCBs can cause facial swelling, loss of hair, acne lesions, birth defects, miscarriages, stillbirths and deaths.

This obsession with PCBs is no recent thing. It was in 1968, for example, that an estimated 1,200 Japanese came down with Yusho disease after using rice oil heavily contaminated with PCBs. The clinical effects included stillbirths, undersized infants, bone and joint deformities, and various neurological disorders.

When a national conference on PCBs convened last November in Chicago under sponsorship of the Environmental Protection Agency, a warning was issued by Nathanial Reed, assistant secretary of the Department of the Interior, to-wit:

"Simply stated, the fact is that we are in trouble. Our food and water supplies are contaminated, our health is threatened, and we face an environmental stress about which we know comparatively little."

For three days, hundreds of scientists, government officials and concerned citizens studied the evidence that is mounting against the chemical.

Reed heads the Interior's Fish, Wildlife & Parks Agency and noted that high concentrations of PCBs still are prevalent in all major U.S. lake and river systems, including the Ohio, Mississippi, Columbia and Rio Grande Rivers.

Too, mature fish in the Great Lakes, particularly Michigan, are contaminated with high PCB levels, he added, and New York State has closed its Hudson River commercial fishery because of the chemical.

Conference delegates urged many different courses of action, but in most instances their special interests came to the fore.

The Great Lakes fishing interests called for a ban on PCBs, but were against lowering the PCB tolerance levels for fish consumption set by the FDA; a National Marine Fisheries Service official warned against unduly alarming the public about PCBs and thereby undermining the industry at large; the electronics industry urged that PCBs not be abandoned for use in transformers and capacitors until a safe, fire-resistant substitute is at hand.

Several chemical firms did present compounds that might be suitable substitutes for PCBs, but their claims were discounted by Monsanto, the sole American manufacturer of them. Monsanto, which has voluntarily restricted sales of PCBs since 1972, is developing its own substitute compound.

Despite the fact that the Environmental Protection Agency was host to the conference, it was criticized for failing to take action in 1972 when its own panel of experts warned of the dangers of PCBs. The delegates, however, generally agreed that the agency always has been hampered by inadequate regulatory powers.

The Toxic Substances Control Act, first proposed in 1970 but never passed, was designed to strengthen EPA's authority. Since 1970, American industry has introduced 600 chemical compounds into the commercial market annually, a spokesman for the agency said. This has been performed without any systematic, advance assessment of their potential impact on human health.

The United States has gone through the DDT and mercury crises with much concern, but unlike these contaminants the levels of PCBs stay high.

Wisconsin's Natural Resources Board earlier this month adopted rules limiting the amount of PCB pollution that would be allowed in industrial effluent.

As Stanton Hietpert, DNR water quality surveillance chief put it:

"The only answer is to try to get PCBs out of the system."

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