STATE OF MINNESOTA JGS

DEPARTMENT Pollution Control Agency

Office Memorandum

TO : Barry C. Schade, Assistant Director
Division of Water Quality

DATE: May 12, 1975

FROM : Joel G. Schilling, Head
Lake Survey Sub-Unit

THROUGH: John F. McGuire, P.E.
Chief, Surface & Groundwater Section

SUBJECT: PCB problem in the Mississippi River

The staff has been recently made aware of the fact that the levels of PCB's in fish flesh within the Mississippi River (Lake Pepin) are exceeding the USFDA "Action Limit" of 5 ppm.

Mr. Schilling received a call from Mr. Mike Morehead, U.S. Food and Drug Administration on Wednesday, May 7, 1975 to report that their agency had confiscated a shipment of carp from a commercial fisherman from Wisconsin. The fish were taken from Lake Pepin and the flesh, when analysed from selected samples, exceeded the FDA "Action Limit" of 5 ppm PCB. The specific polychlorinated biphenyl found was Aroclor #1254.

This particular situation presents further concern to the staff in that certain questions on this matter need to be answered very soon. As you may be aware, this was a rather hot item in 1972. Dr. Jere Mossier had done some work on this problem as shown within a memo of April 1, 1972 to the Agency Board. That memo had included a study with an accompanying letter from Wisconsin Department of Natural Resources regarding fish collection and analysis for PCB's from the Mississippi River. The Wisconsin study had indicated high levels of PCB's in the fish taken in 1970 (data revealed levels as much as 10 times the FDA limit of 5 ppm). We have recently received an update (to 1973) to the Wisconsin study which has added to the concern on this matter. The following data summary of Wisconsin study reveals this problem.

River Mile - 811 (Below Hastings, Mn.)

No.	Species	Average PCB level	Median PCB level
4	Walleye (1970)	30.1 ppm	28.1 ppm
6	Walleye (1973)	9.0 ppm	9.0 ppm
7	Carp (1970)	12.8 ppm	10.7 ppm
8	Carp (1973)	8.4 ppm	8.1 ppm

River Mile - 765 (At Pepin, Wisconsin)

No.	Species	Average PCB level	Median PCB level
13	Walleye	32.4 ppm	25.4 ppm
7	Walleye (1973)	21.8 ppm	25.7 ppm
5	Carp (1970)	16.2 ppm	16.7 ppm
7	Carp (1973)	7.7 ppm	7.4 ppm

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River Mile - 758 (At Wabasha, Mn.)

No.	Species	Average PCB level	Median PCB level
3	Walleye (1970)	7.7 ppm	8.6 ppm
5	Walleye (1973)	5.9 ppm	5.8 ppm
5	Carp (1970)	31.7 ppm	34.8 ppm
7	Carp (1973)	7.8 ppm	8.0 ppm

Attention is warranted to the median values which more accurately reflect the concentrations that could be expected to be found within the fish flesh. It is apparent that a significant reduction in the levels of PCB's has occurred during the interim from 1970 to 1973 except for walleyes at River Mile - 765 (Lake Pepin) and 758 (Lake Pepin). Why the levels of PCB's in the walleyes from Lake Pepin has remained relatively unchanged is not presently known. A number of possibilities exist which could be explored.

Of particular concern is the role of the Division in this matter to date. The staff has been closely monitoring this problem from the standpoint of the waste sources which might be contributing to this problem. The work done previously in 1972 was aimed chiefly at the 3M - Chemolite plant in Cottage Grove as the source of PCB's. The data which is being summarized to date seems to indicate that 3M is not presently the main source of these compounds. This would directly correlate with the reduction in fish flesh levels found below Hastings, Minnesota. However, Foot Tanning Company, Red Wing, Minnesota had the highest levels of PCB's in their effluent during the surveys of 1972. For some reason, no follow-up composite sampling of Foot Tanning was undertaken as was the case at Chemolite.

It is quite apparent that follow-up studies of this problem should be carried out. The staff of the Special Investigations Unit of this Section would be willing to coordinate additional study with the assistance of the Facilities Section to identify point sources which might be contributing to this problem. However, authority to act in this area previously resided in the Division of Special Services. We therefore request that you seek clarification to determine who has this responsibility.