

STAFF REPORT

Michigan Department of Natural Resources
Surface Water Quality Division
September, 1983

EPA Region 5 Records Ctr.



237144

Contaminants in Fish and Sediments From
An Unnamed Lake, T3S, R7E, Section 25, Washtenaw County
June 8, 1983

Fish and sediment samples were collected on June 8, 1978 from an unnamed lake in Washtenaw County for organic contaminant analyses upon request by Barry Johnson, Washtenaw County Health Department. Recently, PCB contaminated barrels and soils were found near the north end of the lake. The Health Department was concerned that fish in the lake might be contaminated with PCBs.

Findings and Conclusions

1. No detectable concentrations of PCB or pesticides were found in any of the five fish collected (Table 1).
2. Sediment samples contained between 1100 and 8300 $\mu\text{g/kg}$ PCB (Table 2). Concentrations were higher at the south end of the lake (Station 2), away from the known PCB contaminated area.
3. The lake was a very clear warmwater lake (Table 3) with abundant macrophyte growths.

Methods

Fish samples were collected using a gillnet set in the north end of the lake. Fish were measured and filleted in the field. Skinless fillets were iced, returned to Lansing, homogenized and then analyzed by the Environmental Laboratory. Scale samples collected prior to filleting were returned to Lansing and used to age the fish.

Sediment samples were collected with a petite ponar and returned to the Environmental Laboratory for analysis. Sampling was continued at each location until a silty sample was obtained.

The Environmental Laboratory analysis included the following: PCB (Archlors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262), Aldrin, Lindane, Chlordane, DDT and metabolites, Heptachlor, Methoxychlor, Myrex and toxaphene. Positive results are shown in Tables 1 and 2, otherwise, the samples analyzed contained less than 0.1 ppm (except toxaphene, which would be less than 1.0 ppm).

Table 1. Fish sampling results from an unnamed lake at Bunton and Textile Roads, T3S, R7E, Section 25, Washtenaw County, June 8, 1983.

Species	Length (inches)	Age (yrs.)	PCB (μ g/kg wet wt.)	Pesticides (μ g/kg wet wt.)
<u>Micropterus salmoides</u> (Largemouth bass)	14.5	4	< 100	< 10
<u>Esox lucius</u> (Northern pike)	23	4	< 100	< 10
<u>Esox lucius</u> (Northern pike)	19.5	4	< 100	< 10
<u>Ictalurus natalis</u> (Yellow bullhead)	8.5	-	< 100	< 10
<u>Ictalurus natalis</u> (Yellow bullhead)	8.5	-	< 100	< 10

Sediment

Table 2. ~~Fish~~ sampling results from an unnamed lake at Bunton and Textile Roads, T3S, R7E, Section 25, Washtenaw County, June 8, 1983.
Results are $\mu\text{g/kg}$ dry weight.

	PCB		DDO	DOE
	Archlor 1242	Archlor 1254		
North End (Station 1)	< 50	1100	48	70
South End (Station 2)	7200	1100	110	51

Table 3. Physical-chemical measurements on an unnamed lake at Bunton and Textile Roads, T3S, R7E, Section 25, Washtenaw County, June 8, 1983.

Location	Depth (m)	Temperature (°C)	Dissolved Oxygen (mg/l)	Secchi Disc (m)
South-west end of lake (Station 2)	0	22	8.2	34
	2	19.5	8.5	-
	3	18	3.0	-