

Half-life of Polychlorinated Biphenyl (Aroclor 1254) in
Fish From an Alabama Reservoir and Stream

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RESERVOIR AND STREAM. Chong-i Paul Lo, Mary W. Vitter, Robert S. Reimers,
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Data from an eight year (1969-1976) field study for PCB's (Aroclor 1254) in fish along Choctoloco Creek and Logan Martin Reservoir in Alabama were analyzed. Two additional years of collecting field data completed the study. Four fish collecting stations were established. Station #1 was a control station miles above the mouth of Snow Creek (which is known as the discharging point by the PCB's plant of Monsanto Chemical Co.). Station #2 and #3 were downstream along Choctoloco Creek and Station #4 was at the Logan Martin Reservoir. Concentration of PCB's (Aroclor 1254) in fish tissue were analyzed to determine accumulation patterns over time and to calculate the half life of the compound for the various fish species. A decreasing concentration of PCB's (Aroclor 1254) in fish was observed from samples taken in Choctoloco Creek. The half lives for individual species range from 18.0 to 27.8 months with good statistical correlation within individual species. The average half life for PCB's (Aroclor 1254) for all species was 21.2 months. In contrast, fish sampled in Logan Martin Reservoir (Bass and Longear Sunfish) showed increasing PCB concentration over time. Based on uptake data, the projected time for doubling PCB concentration is 46 months for Longear Sunfish and 61 months for Bass. This increasing trend may be due to the availability of PCB's because of transport of suspended and colloidal material downstream from Choctoloco Creek. Different uptake patterns in fish taken from stream and reservoir will be elucidated.

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