Session3A: **Water Monitoring and Human Health Related Issues**
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## Fish tissue contamination in the mid-continental great rivers of the United States

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The great rivers of the central United States (Upper Mississippi, Missouri, and Ohio rivers) are significant economic and cultural resources, but their ecological condition is not well quantified. The Environmental Monitoring and Assessment Program for Great River Ecosystems (EMAP-GRE) was designed to provide a broad-scale assessment of each river. Fish tissue contamination was measured to estimate human and wildlife exposure risks to persistent organic pollutants through fish consumption. The emerging contaminants polybrominated diphenyl ethers (PBDEs) were measured as a baseline for future studies. Polychlorinated biphenyls (PCBs), PBDEs, and dichlorodiphenyltrichloroethane (DDT) were detected in most fish tissue samples. Dieldrin and PCBs at tissue concentrations above human screening values (SVs) for cancer risk occurred 27─54% and 16─98% of the great rivers (by length). Chlordane exceeded wildlife risk values for kingfishers in 11–96% of river km, to the greatest extent in the Ohio River. PBDE concentrations were highest in large fish in the Missouri and Ohio rivers, averaging >1000 ng $g^{-1}$ lipid; congener 47 was most prevalent. The extent of these persistent compounds in the three great rivers indicates widespread contamination of fish with exposure risk implications for humans and wildlife in the central United States.

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