

**Persistent Organic Pollutants (POPs) in the Great Lakes: Evolution of the Understanding of their Source and Transport**

**Public Lecture by Melvyn Visser, Chemical Engineer, MTU Class of 1959**

**Monday, September 24, 2007, 3:00 in 642 Dow, Reception to follow**

Persistent organic pollutants (POPs,) the toxic chemicals such as PCBs and the pesticides banned in the 1970s and 1980s, are a much greater problem in Lake Superior than in the lower lakes. Most of Lake Superior's toxicity comes from toxaphene, a pesticide that was used heavily on cotton in the south and then saw general use when DDT was banned. Toxaphene is present in Lake Trout fillets at about two parts per million, *twice* that of PCBs, while its human toxicity is *five times* that of PCBs. How did that much toxaphene get into Lake Superior? PCB concentrations in fresh water lake sediments were studied and found to decrease from north to south with Lake Superior's sediment concentration matching the global trend. Toxaphene is of intermediate volatility and loves the colder Great Lake areas and the Arctic. Toxaphene is continuously sourced to the northern hemisphere through agricultural uses in the developing countries including China, Russia, India and Pakistan. The northern Great Lakes and the Arctic will not be toxaphene free until toxaphene is globally banned.