

Dioxins found in Isle Royale lake

By DAVID EVERETT
Free Press Staff Writer

A new study at Michigan's pristine Isle Royale National Park has led researchers to conclude that dioxins, the notorious pollutants that became a household word last year, are being spread through the atmosphere.

The study, by Indiana University researchers, found low levels of dioxins and furans, a group of related compounds, in sediment taken from Siskiwit Lake on the island park in Lake Superior.

The findings are significant in two ways: They suggest that dioxins, among the most toxic compounds known, are present throughout the atmosphere, and that they thus can spread through the environment by precipitation — a sort of "dioxin rain."

Results of the study are reported in the

'Dioxin rain' may spread pollutants

Nov. 2 issue of Science magazine.

The use of Siskiwit Lake sediment was important because the lake receives no water from industrial plants, pollution sources or even Lake Superior. The lake's isolation apparently means it could be contaminated only through the air.

"I hope this proves once and for all that (the dioxin levels) are the result of atmospheric transport of the combustion of waste," Ronald Hites, a chemistry professor at the university in Bloomington, said Monday.

In their article, Hites and researchers Jean Czuczwa and Bruce McVeety cite

high levels of dioxins in dust from Midwestern incinerators, including a Dow Chemical Co. waste burner in Midland.

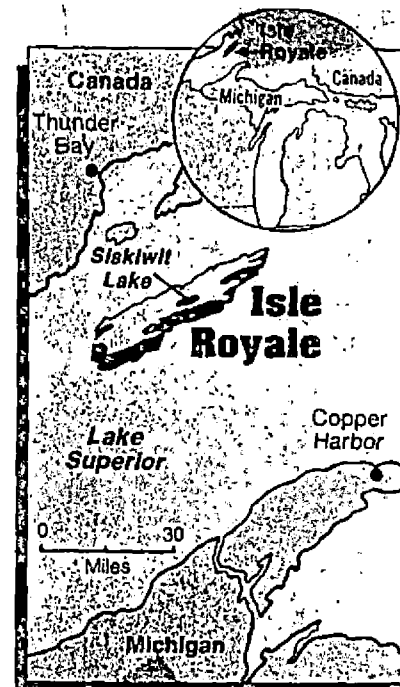
"These high concentrations suggest that the combustion of domestic and chemical waste, which is extensive in the Great Lakes basin, is the major source of dioxins and furans in the atmosphere," the article concludes.

HITES NOTED that no one knows if the dioxin levels in the atmosphere — much lower than levels in incinerator smoke — are dangerous to humans.

"We're talking about extremely low levels, particularly if you compare it to something that we know has an effect on human health, like cigaret smoking," he said.

The burning of domestic garbage that

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Study: Dioxins can travel by air

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includes chemical products also can produce the contaminant, Hites said.

The scientists discounted chemical manufacturing as a primary source of the air pollution. And they ruled out natural combustion, such as forest fires, because studies show only barely measurable traces of dioxins and furans in soils that are dated before about 1940 — when the chemical industry began to grow.

"I think all of this points to it being

an indirect result of the chemical industry," Hites said.

DIOXINS ARE a family of compounds that received national publicity last year after a scandal at the U.S. Environmental Protection Agency. Much of the publicity centered on Dow Chemical's Midland operations, which state and federal officials call a major source of dioxin pollution in the region.

Dioxins, especially the most toxic form known as 2,3,7,8-TCDD, are by-products of certain chemical processes,

including herbicide production and some types of combustion. Although long-term effects on humans are a matter of debate, the EPA considers 2,3,7,8-TCDD a "probable" carcinogen.

The Indiana study found TCDDs in Isle Royale sediment, but it did not isolate levels of 2,3,7,8-TCDD. All the dioxins and furans found in the sediment were at the parts per trillion level, with some 49-year-old sediment showing very low or undetectable amounts.