

Reducing Risk From Airborne Exposures

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Exposures

- Demolitions
- Construction
- Renovation

Specific Exposures

- Particulates
- Silica
- Lead
- PCBs

Examples

- Particulates: high rise demolitions Chicago
- Silica: construction/demolition
- Lead: demolitions Baltimore and Chicago
- Airborne PCBs: Great Lakes region and buildings in greater Boston area



Dorevitch Air and Waste Management Assoc 56: 1022-1032, 2006

Particulate Levels Before and After Demolitions

PM Measure	Predemolition		Demolition		Difference
	n	Conc.	n	Conc.	
PM ₁₀ local	50	17.1	66	23.2	6.1**
PM ₁₀ regional	50	17.4	66	19.2	1.8
PM _{2.5} local	50	10.9	66	11.9	1.0
PM _{2.5} regional	26	17.4	61	14.6	-2.8
PM _{10-2.5} local	50	5.4	66	10.2	4.7**

Highway Repair: Silica

- Review 576 silicosis cases reported NIOSH
- 45 in construction
- 3 road construction and maintenance
- Monitored 9 highway repair sites for 7 tasks – Mean airborne silica for 5 tasks elevated

Demolitions: Baltimore

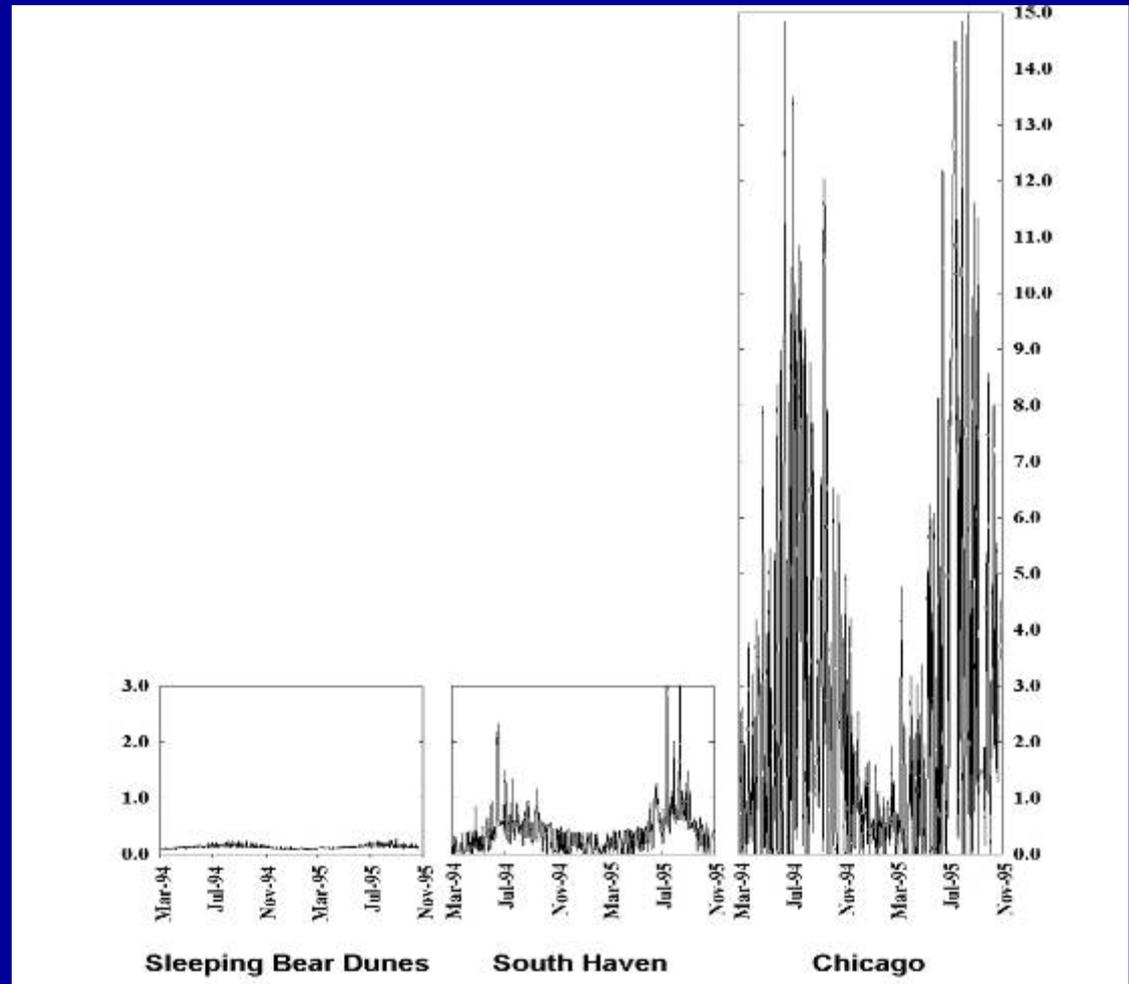
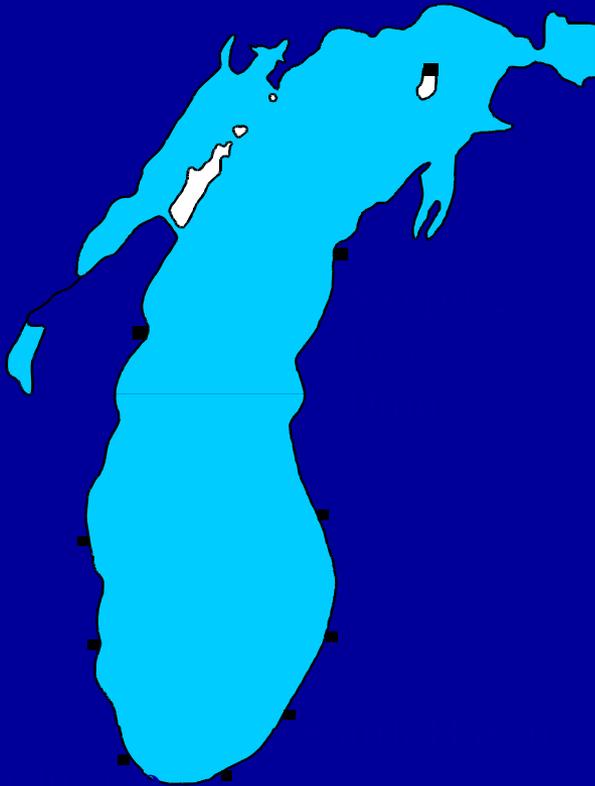


Farfel: EHP 111: 1228-1234, 2003

Demolitions: Baltimore

Site	Phase	No.	Cumulative lead dust fall			
			GM	GSD	Min	Max
All	Baseline	38	62	1.6	< 58 ^a	220
	Demolition	22	2,700	4.4	250	35,000
	Debris removal	36	440	4.5	< 58	26,000

PCBs in Great Lakes Air



Possible Sources of Airborne PCBs

- Water/soil
- Landfills
- Industrial sites
- Capacitors/transformers
- Caulking

Superfund Grant Universities Iowa and Illinois

- NIEHS P42 ES013661 PI Larry Robertson
- Projects 4, 6 and Outreach Core
- Measuring airborne PCBs in Chicago, Columbus Junction, Iowa and East Chicago, Indiana
- Airborne and blood PCBs before and after dredging of Indiana harbor

Reducing Risk

- Identify source exposure
- Establish surveillance systems
- Eliminate source
- Isolate exposure
- Increase local ventilation
- Water area during activity
- Provide protective equipment

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