

Table 5-19. Estimated Trans-nonachlor Loads From Lake Michigan Tributaries (EPA No date [j])

Tributary	Estimated Load (kg/yr)	Estimated Load (lb/yr)
Fox River	0.09	0.02
Grand Calumet	0.04	0.09
Sheboygan River	0.002	0.004
Kalamazoo	0.09	0.2
Grand	0.29	0.64
Menominee River	0.02	0.04
Milwaukee Estuary	0.03	0.07
Pere Marquette	0.003	0.007
Muskegon River	0.04	0.09
St. Joseph	0.36	0.8

IMPACT ON LAKE MICHIGAN

Oxychlordane, a metabolite of chlordane, has been monitored in fish in Lake Michigan since 1977. Although levels have declined by 80 percent in lake trout from Lake Michigan over the last 10 years, fish from the southeast portion of the lake still have the highest observed concentrations of any of the Great Lakes (0.45 ppm). Oxychlordane levels in coho salmon fillets from Lake Michigan have declined from 2 ppm in 1980 to 0.5 ppm in 1984, but then steadily increased to above 1 ppm in 1992 (DeVault 1996). Oxychlordane levels in herring gull eggs from several gull colonies were above 0.3 ppm in Lakes Ontario, Michigan, Erie, and Huron in the mid-1970s and have declined to or below 0.1 ppm in all of the lakes except Lake Michigan. Concentrations in herring gull eggs from Lake Michigan have declined from levels close to 1 ppm in 1982 to about 0.25 ppm in 1989 through 1992 (Chemical Manufacturers Association 1997).

Fish consumption advisories due to unacceptable chlordane levels have been issued by the states of Wisconsin and Michigan (EPA No date).

SPECIAL MANAGEMENT ISSUES

Programs regulating and controlling the management of chlordane are presented in Appendix A. Special management issues with chlordane include the following:

- Environmental cycling of legacy chlordane contamination is a major source of chlordane to Lake Michigan.
- Long-range transport of pollutants

Specific actions to address
CHLORDANE are
presented in Chapter 6,
Table 6-1: RPP1, RPP16, IS13, RA15

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