Mercury in Fish Tissue Samples in Indiana

(from Risch and others, 2010)

The Indiana Department of Environmental Management (IDEM) collected fish-tissue samples targeted to support the annual Fish Consumption Advisory that is prepared by the Indiana State Department of Health in collaboration with the IDEM and the Indiana Department of Natural Resources. The locations, species, sample characteristics, and total mercury concentrations for 2,225 fish-tissue samples collected at 502 locations statewide, 1993 through 2004, were obtained from the IDEM (Indiana Department of Environmental Management Assessment Information System database, unpublished data, 2005).

Total mercury concentrations reported in fish-tissue samples were assumed to be nearly all methylmercury (U.S. Environmental Protection Agency, 1999, 2009; Harris, Krabbenhoft, and others, 2007), and hereinafter are called "mercury concentrations" when referring to fish tissue.

Data for mercury concentrations in 2,225 fish-tissue samples from 502 locations statewide, 1993–2004, were compiled. These fish-tissue samples were from 68 species and were collected at 439 sites on rivers and streams[1] and 63 sites on lakes and reservoirs. Wet-weight mercury concentrations from the 2,225 fish-tissue samples had a median of 123 µg/kg (micrograms per kilogram) and a maximum of 1,070 µg/kg. When compared with the recommended limit, which is the U.S. Environmental Protection Agency (2001) water-quality criterion of 0.3 mg/kg (milligram per kilogram) methylmercury in fish tissue (equivalent to 300 µg/kg), 11.6 percent of these concentrations exceeded this criterion. This percentage is approximately equal to 1 out of every 8 fish samples.

References

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[1] The IDEM database distinguishes natural and manmade lakes from flood-control reservoirs; "streams" are first-order headwaters, and "rivers" are all other flowing waters.