



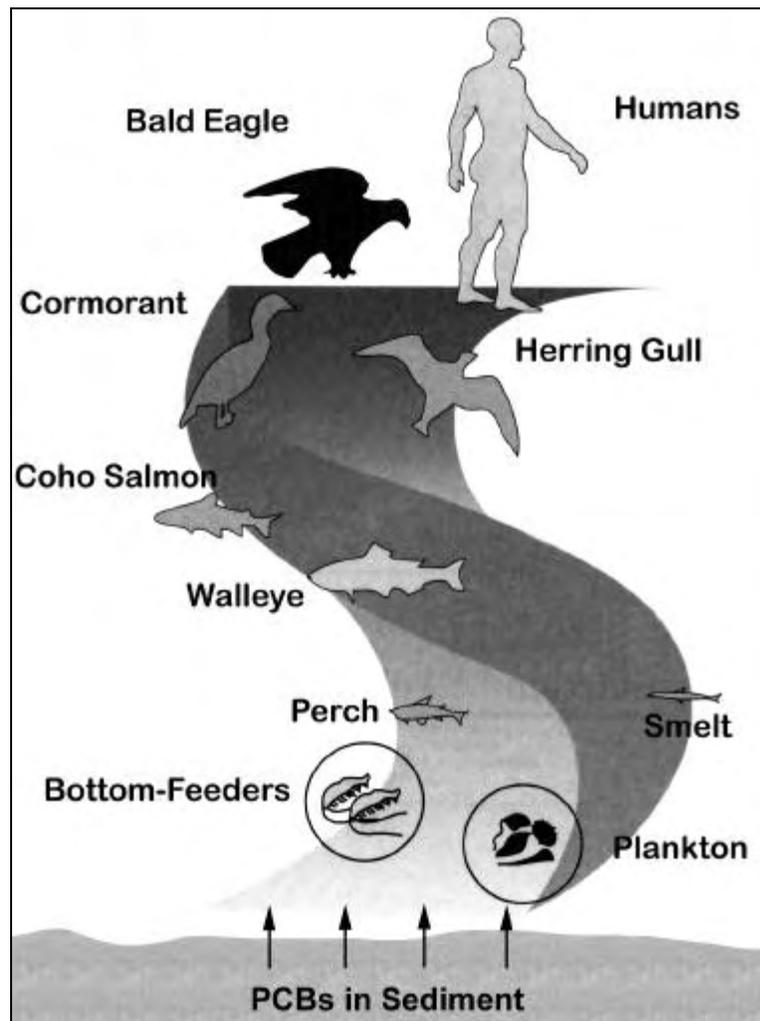
FACT SHEET

April 1998

PCBs: Lower Fox River Impacts

What are PCBs?

Polychlorinated biphenyls, or PCBs, are a group of toxic chemicals that were once widely used as industrial coolants, insulators, and lubricants. PCBs are of concern because they concentrate in the environment and the food chain resulting in health hazards to humans, fish and wildlife. Because of these dangers, the U.S. Congress banned the manufacture of new PCBs in 1976 and PCBs still in use are strictly regulated.



Through a process called biomagnification, PCB levels in top predators, such as bald eagles and lake trout, can be million of times those found in surface water.

PCBs were released into the Lower Fox River by some area paper mills from about 1957 to 1971, in large part due to the recycling of carbonless paper. All told, the mills released about 125 tons of PCBs into the river, of which about 40 tons remain, contaminating 11 million cubic yards of sediment. Each year about 600 additional pounds of PCBs in the Lower Fox sediment migrate into Green Bay and out into Lake Michigan. As a result of natural sediment scouring and water flow, more than 160,000 pounds have already escaped the Lower Fox River and into the Green Bay and Lake Michigan ecosystems.

Why should Northeast Wisconsin residents be concerned?

Several human studies have shown that exposure to PCBs via fish and game consumption has adverse health consequences. PCB exposure may also occur from ingesting contaminated water or small quantities of soil, or by skin contact. Negative health effects from PCB exposure include: impacts on the nervous, immune, circulatory, and hormonal systems, and liver, brain, and skin disorders. EPA and the International Agency for Research on Cancer classify

PCBs as probable human carcinogens. Sensitive populations, including people who regularly eat contaminated Great Lakes fish, are at an increased risk for PCB exposure. Locally, these include: the Hmong, women of child-bearing age, nursing infants and young children, and the elderly.

Studies on the human health effects and risks associated with exposure to PCBs, including from fish consumption, show:

- ! Neurobehavioral and developmental problems--such as impaired responsiveness, short-term memory problems, and reduced mental abilities in the infants and children of mothers exposed to PCBs prior to and during pregnancy (Jacobson, 1984, 1985, 1990; Koopman, 1996; Huisman, 1995; Lonkey, 1996; Rogan, 1985); and
- ! Three times the chance of having lower IQ scores; twice the chance of lagging at least two years behind in reading comprehension; short-term and long-term memory effects and difficulties in paying attention (Jacobson, 1996); and
- ! Increased risk of cancer and immune system effects among the general population, and workers producing PCB capacitors (Bertazzi, 1987; Brown, 1987; Sinks, 1991; Svensson, 1984; Rothman, 1997).

Because of the potential health impacts, fish consumption advisories for both the Lower Fox and Green Bay have been in place since 1976. However, not all people follow fish advisories. These advisories, published regularly by the Wisconsin Department of Natural Resources (WDNR), warn residents to limit or eliminate locally-caught fish (e.g. carp, catfish) from their diet. They also provide tips on how to properly clean and cook fish to reduce the risk of PCB exposure.

OTHER PCB SEDIMENT CLEANUPS

Since the 1980's, EPA and local government agencies have addressed PCB contamination at many other rivers and harbors. Often, these cleanups have included dredging as part of the solution. Suction or hydraulic dredging has been shown to remove sediments very safely. Other cleanup options include leaving less contaminated sediments in place and capping of PCB hot spots. Dredging has been highly effective in removing PCBs and, when measured, has shown to greatly reduce contaminants in fish and wildlife at sites including Sheboygan (WI), Ruck Pond (WI), Manistique Harbor (MI), St. Lawrence River (NY), Waukegan Harbor (IL), and the St. Lawrence River (NY).

For the Lower Fox, preliminary evaluations suggest that dredging may be part of any comprehensive cleanup, although no decision has been made at this time. If dredging is selected, a number of factors would have to first be considered, including the amount of material to be dredged and the levels of contamination.

PCBs can also have a tremendous impact on natural resources. In studies conducted since the 1970's, fish and wildlife populations throughout the Great Lakes have shown high levels of PCB build up in fatty tissues, resulting in reduced fertility, deformities (e.g. cross bills in cormorants), physiological abnormalities, and death. Currently, the Lower Fox and Green Bay have levels of PCBs in water, fish, and other wildlife which range from about 100 to 10,000 times safe levels. Without action on the PCB contaminated sediments, it may take 100 years or more for PCB in the Lower Fox and Green Bay to reach acceptable levels.

When PCBs and other contaminants are allowed to remain in a major water body like the Lower Fox, there may be economic impacts, as well. Contaminated water resources are known to limit local economic potential and revenue resulting from tourism, sport fishing, commercial fishing, and waterfront development. Conversely, where rivers and harbors have been cleaned, local economic conditions have been enhanced. The build up of contaminated sediments in the river has made it difficult for the Army Corps of Engineers to keep the Lower Fox shipping channel open, affecting commerce.

What can be done about PCBs in the Lower Fox River?

A group of six governmental agencies and tribal entities is working together to move forward with cleanup of the Lower Fox. Under the Federal Superfund toxic cleanup program (administered by EPA), responsibility for much of the cleanup work lies with a group of paper mills known as the Fox River Group. The six partners: EPA, WDNR, U.S. Fish and Wildlife Service (FWS), National Oceanic and Atmospheric Administration (NOAA) and the Menominee and Oneida Tribes. Other agencies supporting the effort include: Wisconsin Department of Public Health and Family Services, and the Agency for Toxic Substances and Disease Registry.

Actual cleanup must be preceded by a comprehensive risk assessment, analysis of cleanup alternatives, and/or environmental engineering design work. A range of cleanup strategies may be considered, and will include many opportunities for public comment and input from the other affected parties.

For More Information

If you have additional questions about PCBs, health studies, or the Lower Fox River cleanup, please contact: Bri Bill, EPA Community Involvement Coordinator, 1-800-621-8431 x36646 or (312) 353-6646.