

CONTAMINATED SEDIMENTS



The Link Between Our Polluted Waterways & Toxic Fish

Our nation's lakes and rivers bear a legacy of industrial pollution along their banks and in underlying sediments. When long-lived toxic chemicals like PCBs are dumped into waterways, they settle at the bottom of lakes and rivers and are captured in sediments. These contaminated sediments provide a constant source of toxic chemicals that work their way up the food chain and are concentrated at high levels in fish, waterfowl and other aquatic life. In turn, people who consume this contaminated food can suffer from cancer, reproductive problems, and developmental abnormalities.

- **Quality of Life Impacts** — The impacts of contaminated sediments are clearly demonstrated in the Great Lakes region, an area that includes eight states and two Canadian provinces. This region holds almost 20% of our planet's fresh surface waters and provides drinking water for 40 million people. Sediments contaminated with chemicals such as PCBs, dioxins, and mercury are the largest source of pollution affecting over 40% of its shoreline (2,068 miles). One fourth of all U.S. industries and more paper industries than anywhere in the world are located in this region.
- **Health Impacts** — Government health advisories warn people not to eat fish from waters in the U.S. While PCB levels in wildlife have declined since the federal Environmental Protection Agency's (EPA's) ban in 1976, many fish still contain PCBs at 100 times health-protective levels. A study showed infants born to mothers who ate Great Lakes fish had lower birth weights, smaller heads, and slower movements than unexposed infants [Jacobson]. A follow-up study showed long-term negative effects on physical growth, verbal skills, and short-term memory. Dr. Vallentyne of the Great Lakes Science Advisory Board has warned, "These chemicals may be whittling away the innate potential within our species to learn and think." [1991]
- **Ecological Impacts** — Studies have found tumors and reproductive abnormalities in fish are linked to contaminated sediments. Many common fish species are no longer self-sustaining in the Great Lakes and must constantly be restocked, and many wildlife and bird species that rely on fish are suffering from deformities and reproductive failure. [Env Canada 1991]
- **Economic Impacts** — Contaminated sediment toxic "hotspots" restrict economic growth and urban waterfront revitalization, and have caused many fisheries to close their doors, putting people out of work. Taxpayers pay up to 5 times more to dredge contaminated sediments than they ordinarily would just to keep their ports open. Great Lakes fisheries alone are worth an estimated \$3-4 billion per year and support about 80,000 jobs. Over 6.5 million trout must be stocked every year at a cost of \$2.5 million to taxpayers to restore fish populations in the Great Lakes.

**BE SAFE: Take Precautionary Action
to Clean Up Contaminated Sediments**

BE SAFE's FOUR PRINCIPLES

1. HEED EARLY WARNING SIGNS

Contaminated sediments are known to be a major source of pollution to our food chain as they are stirred up by storms, dredging and boat movement. Approximately 85% of human cancer risks from Great Lakes contaminants come from eating PCB-laden fish, which also have long-term detrimental effects on children's health and development. [Manno] We must heed these early warning signs of the catastrophic effects of dumping chemicals into our waterways and put safety before profits.

2. PUT SAFETY FIRST

We have the tools we need to safely destroy or remove contaminants found in sediments, permanently isolate them from the food chain, and prevent further contamination by

- (1) strengthening public oversight and funding for Clean Water and Remedial Action programs;
- (2) setting and enforcing cleanup goals protective of human health and wildlife; and
- (3) developing better sediment cleanup technologies.

3. EXERCISE DEMOCRACY

The link between contaminated sediments and impacts on our health and economy have been demonstrated, yet polluters still dump huge amounts of chemicals into our waterways as government fails to enforce the clean up of contaminated sediments. Communities harmed by contaminated sediments must be part of the democratic process to develop and enforce health-protective cleanup and prevention policies and hold polluters accountable.

4. CHOOSE THE SAFEST SOLUTIONS

Communities across the country are faced with choices on how they will clean up contaminated sediments plaguing their waterfronts and waterways. Often, despite knowing about the problems, nothing is done because of the apparent complexity and expense of cleaning them up. In some cases, contaminated sediments are moved from one community to another via dredging and land disposal. In others, clay, plastic or metal caps and liners are used to contain the sediments or build disposal facilities guaranteed to eventually leak.

The safest solution is full cleanup by destroying or removing the contaminants from the ecosystem in an environmentally responsible way. Many proven treatment technologies can achieve full cleanup, such as pre-treating (washing) dredged materials to separate out up to 90% of contaminants, and then using microorganisms, chemicals, or heat to destroy or extract the remaining contamination.

■ Support Clean Up of Toxic Sediments in Your Area.

Contact the Coast Alliance, a network of 700 groups campaigning for local cleanups, at www.coastalliance.org. Contact Great Lakes United to support their precautionary plan to restore toxic sediment hot spots at www.glu.org.

■ Learn About Public Involvement Campaigns.

Learn about public involvement campaigns at contaminated sediment sites around the country at www.sierraclub-glp.org/publications.

■ BE SAFE.

Take precautionary action to protect our health from contaminated sediments. Sign on to the BE SAFE Platform on the next page. Be counted when we deliver this national Platform to the White House in 2005. Endorse the BE SAFE Platform today at www.besafenet.com.

■ Your Vote Counts.

The next election will set the country's course on policies to clean up contaminated sediments. For information on state and federal environmental voting records, contact www.sierraclub.org and www.lcv.org. To register to vote, contact www.earthday.net

World's Largest PCB Cleanup: Michigan's Waukegan Harbor

A full-scale cleanup of contaminated sediments in Lake Michigan's Waukegan Harbor was a tremendous victory for the community and removed a serious health threat. The Harbor was one of the first Federal Superfund sites listed in the early 1980s. A Citizens Advisory Group made up of local citizens and environmental, recreational, and industrial groups worked with the federal Environmental Protection Agency (EPA) and had an integral role in decision-making on the cleanup process.

Toxic PCBs (polychlorinated biphenyls) in harbor sediments made up half the volume of some sediments, and fish contained PCBs at nine times the Food & Drug Administration limit. Over 1 million pounds of contaminated sediments were removed or isolated—the world's largest PCB cleanup effort to date. Although fish advisories have been removed, the harbor is still listed as an "Area of Concern" and testing continues to address any remaining contamination.

References:

Env Canada, *Toxic Chemicals in the Great Lakes and Associated Effects*, Vol. 1, 1991; Jacobson S., et al., *The Effect of Intrauterine PCB Exposure on Visual Recognition Memory*, Child Development, 1985; Manno J., et al., *Effects of GL Contaminants on Human Health*, 1994.

Primary Contributor: Margaret Wooster, Great Lakes United

Environmental Health Alliance

BE SAFE Platform

In the 21st century, we envision a world in which our food, water and air are clean, and our children grow up healthy and thrive. Everyone needs a protected, safe community and workplace, and natural environment to enjoy. We can make this world vision a reality. The tools we bring to this work are prevention, safety, responsibility and democracy.

Our goal is to prevent pollution and environmental destruction before it happens. We support this precautionary approach because it is preventive medicine for our environment and health. It makes sense to:

- *Prevent pollution and make polluters, not taxpayers, pay and assume responsibility for the damage they cause;*
- *Protect our children from chemical and radioactive exposures to avoid illness and suffering;*
- *Promote use of safe, renewable, non-toxic technologies;*
- *Provide a natural environment we can all enjoy with clean air, swimmable, fishable water and stewardship for our national forests.*

*We choose a “better safe than sorry” approach motivated by caution and prevention.
We endorse the common-sense approach outlined in the Blueprint’s four principles listed below.*

Platform Principles

HEED EARLY WARNINGS

Government and industry have a duty to prevent harm, when there is credible evidence that harm is occurring or is likely to occur—even when the exact nature and full magnitude of harm is not yet proven.

PUT SAFETY FIRST

Industry and government have a responsibility to thoroughly study the potential for harm from a new chemical or technology before it is used—rather than assume it is harmless until proven otherwise. We need to ensure it is safe now, or we will be sorry later. Research on impacts to workers and the public needs to be confirmed by independent third parties.

EXERCISE DEMOCRACY

Precautionary decisions place the highest priority on protecting health and the environment, and help develop cleaner technologies and industries with effective safeguards and enforcement. Government and industry decisions should be based on meaningful citizen input and mutual respect (the golden rule), with the highest regard for those whose health may be affected and for our irreplaceable natural resources—not for those with financial interests. Uncompromised science should inform public policy.

CHOOSE THE SAFEST SOLUTION

Decision-making by government, industry and individuals must include an evaluation of alternatives, and the choice of the safest, technically feasible solutions. We support innovation and promotion of technologies and solutions that create a healthy environment and economy, and protect our natural resources.

Take precautionary action to protect our health from contaminated sediments. Sign onto the BE SAFE Platform.

Be counted when we deliver this national platform to the White House in 2005.
Endorse the platform today at www.besafenet.com

The Environmental Health Alliance and the BE SAFE Platform is coordinated by the Center for Health, Environment & Justice. To sign the platform or for more information, contact us at Environmental Health Alliance, c/o CHEJ, P.O. Box 6806, Falls Church, VA 22040, 703-237-2249 or visit the Website at www.besafenet.com

