

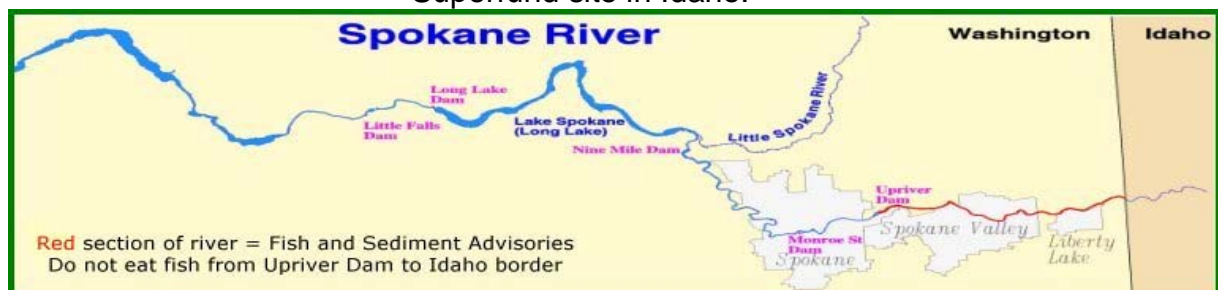
# Spokane River, toxic chemicals and Human Health

The Spokane River is contaminated with a range of toxic chemicals. A total maximum daily load (TMDL) limit for PCBs is currently under development by the Washington State Department of Ecology. Mining in Coeur d'Alene Idaho has spread heavy metals throughout the river, damaging human health and the environment. Washington Department of Ecology has indicated concern regarding PBDEs- flame retardants used in a variety of household items that have recently been shown to be building up in our bodies.

Toxin	Source	Mode of Exposure	Primary Effects on Human Health
PCBs	Paper Mills, Stormwater, Historical Contamination	Consumption of fish	Cancer, developmental problems in children, liver damage, reproductive effects
PBDEs	Publicly Owned Treatment Works	Consumption of fish, drinking water	Cancer, thyroid problems, reduced sperm count, liver damage, altered brain development
Dioxins	Industry, paper mills	Fish consumption	Cancer, reproductive and development, liver, brain development
Mercury	Coeur d'Alene Mines	Consumption of fish	Affects nervous system function; particularly in children
Lead	Coeur d'Alene Mines	Contaminated water and fish consumption	Affects nervous system, heart disease, kidney disease; particularly in children
Cadmium	Coeur d'Alene Mines	Contaminated water	Cancer, kidney disease, liver disease, nervous system problems
Zinc	Coeur d'Alene Mines	Contaminated water	Anemia, sterility, skin irritation

## Sources of Contamination in the Spokane

Contamination enters the Spokane in a number of different ways. Stormwater from water treatment plants is the main source of PBDEs, and a substantial source for PCBs as well. Other PCB sources include paper mills up and down the river as well as historical contamination from PCBs trapped in river sediment. Most of the contamination related to heavy metals is from the Coeur d'Alene Superfund site in Idaho.



[http://www.ecy.wa.gov/geographic/spokane/spokane\\_river\\_basin.htm](http://www.ecy.wa.gov/geographic/spokane/spokane_river_basin.htm)

Prepared by Environmental Stewardship Concepts : [estewards.com](http://estewards.com)