

How toxics get in our watershed

While our waters may appear clear and pristine, toxic chemicals can be present in both the water and the many organisms, particularly fish, that live in it.

Toxic contaminants include:

- Heavy metals like mercury, cadmium and lead

- Polychlorinated biphenyls (PCBs), which were banned in the late 1970s but persist in sediments and fish.

- Pesticides, including many that have long been banned which continue to leach from old dumps, etc.

- Dioxins, which are discharged from industrial sources, such as incinerators

- Automotive chemicals – motor oil, gas, antifreeze, coolants, etc.

How do toxic substances get into our water?

Toxics can come from both point and non-point sources. Currently, point

sources for toxics are limited in our watershed but, we do have a number of “legacy” sites that are still having an impact on water quality. Many of the larger contaminated industrial sites have either been cleaned up or are in the process of being cleaned up. For example, cleanup is underway at the trichlorethylene (TCE) plume in Mancelona and the remediation measures in place at the Cone Drive Textron site are successfully removing contaminants there.

The larger, basin-wide issue is the slow accumulation of many substances through stormwater runoff, air deposition and other sources such as septic tanks and leaking automobile fluids.

At any given moment, somewhere in the watershed is a leaking radiator, a landowner spraying herbicides or someone spilling gas while filling up their car. When it rains, these toxic pollutants are washed into the nearest storm drain or ditch, eventually reaching a nearby waterway.

Each winter, hundreds of pounds of road salt and sand are spread on area roadways; when spring rolls around, it all gets washed into the nearest waterway. Additionally, farms, businesses and homes throughout the watershed are potential sites of groundwater contamination from improperly disposed and stored pesticides, solvents, oils and chemicals.



Participants in Watershed Center Kayak Tours, led by local environmental consultant Dr. Chris Grobbel, learned about Boardman Lake's industrial past and the contaminant sites that still surround it.

There is also widespread air deposition of toxic substances into Michigan's waters, particularly mercury. These chemicals travel on the wind from Chicago, Milwaukee and other points west and then are deposited here through precipitation.

Toxics contaminants impact humans and the environment a couple of ways:

- First, they accumulate in fish, which are then consumed by humans. Potential and known haz-

ardous effects include cancer, neurological problems and birth defects.

- Second, they harm aquatic life, potentially causing all plant animal life in entire streams or lakes to be killed off if contamination is high enough.

How do such small amounts become toxic?

Once many of these toxic substances enter the Great Lakes Watershed, they do not disappear. Toxic substances tend to have persistence, because they do not break down easily into

harmless substances.

As organisms ingest these substances, either with sediment, water or by eating other species, the toxins accumulate in their tissues. This process is called bioaccumulation. They also increase in quantity and become more concentrated. This process is called biomagnification.

WATERSHED ACCOMPLISHMENTS

- 144 residents dropped off more than 18 tons of used electronics in the Grand Traverse County Resource Recovery Office's first-ever electronics recycling event held in Spring 2003. Electronic equipment, particularly monitors, are loaded with hazardous materials.

- The Grand Traverse Band of Ottawa and Chippewa Indians has addressed a number of toxic pollutant issues:

- They instituted a burn barrel ban on tribal lands. Smoke from burn barrels is a source of dioxins and other harmful chemicals.

- They have adopted a variety of mercury reduction measures including a mercury switch exchange in tribal vehicles.

WATERSHED FACTS

- One gallon of waste motor oil can contaminate thousands of gallons of groundwater and take hundreds of years to work its way out of the system.

- An estimated 1,000 new chemical compounds are introduced each year.

- More than 30,000 chemicals are produced or used in the Great Lakes Region.

- Over 1,000 chemicals are in the Great Lakes ecosystem.

- 362 toxic substances have been identified in quantifiable amounts in the Great Lakes.

WAYS YOU CAN HELP

- Buy alternative products. Read labels and look for non-toxic products.

- Be thoughtful about what you pour down the drain. Traces of household chemicals, cleaners, paint and other substances end up in our water.

- Recycle motor oil and batteries.

- Separate hazardous waste items from your trash and dispose of them at hazardous waste collection events.