

Pollutants in the Mona Lake Watershed:

There are several pollutants found in various parts Muskegon County that can impact human and environmental health. Most of these pollutants are remnants of old manufacturing processes or oil production from the early 1900s. Several pollution hot spots are in various stages of clean-up, still others need attention. Following is a list of materials of most concern found in the Mona Lake Watershed.

BTEX – is an acronym for Benzene, Toluene, Ethylbenzene and Xylene and is a group of compounds typically found in petroleum products.

Benzene— is found in petroleum products and is known to cause cancers such as leukemia, Hodgkin’s disease, and lymphoma.

Toluene—is a solvent that is produced when gasoline and other fuels are made from crude oil that can cause reproductive problems. Toluene doesn’t usually stay in the environment long. It can affect the nervous system, or may affect your kidneys. Once exposure to this compound is stopped the symptoms from exposure will disappear.

Ethylbenzene—is another solvent found in petroleum products that can cause reproductive and nervous system problems, and liver damage.

Xylene – is another solvent found in gasoline that can cause damage to the liver, kidneys, skin, eyes, bone marrow, and developing fetuses. Xylene affects the brain and may cause delayed growth and development.

Lead – was used for many years as an additive to gasoline to improve engine performance. It is a poison, which builds up in the body and causes damage to brain tissue and the central nervous system. It has also been connected to learning disabilities in children. Lead can be passed from mother to children during pregnancy. Children are more at risk from of harm from lead than adults.

Heavy Metals—is a term that refers to any metallic chemical element that has a relatively high density and is toxic or poisonous at low concentrations. Examples of heavy metals found in the Little Black Creek include: cadmium, chromium, and lead.

Cadmium – is a compound that doesn’t corrode easily and has many uses including batteries, pigments, metal coatings, and plastics. Cadmium has been associated with lung, kidney, and liver disease in animals. It has also been determined that cadmium may cause cancer. Babies exposed to high levels of cadmium during pregnancy had changes in behavior and the ability to learn.

Chromium – is a compound used in chrome plating. Once in the environment it can strongly attach to soil and doesn’t easily dissolve. Some studies have shown that chromium can increase the risk of lung cancer.

VOCs—Volatile Organic Compounds are organic chemicals that have a high vapor pressure and easily form vapors at normal temperature and pressure. The term VOC is

generally applied to organic solvents, certain paint additives, aerosol spray can propellants, fuels (such as gasoline and kerosene), petroleum distillates, dry cleaning products and many other industrial and consumer products ranging from office supplies to building materials. Examples of VOCs found at the Peerless site include: **TCE and Benzene.**

TCE—Trichloroethylene is a nonflammable, colorless liquid at room temperature with a somewhat sweet odor and a sweet, burning taste. Trichloroethylene is mainly used as a solvent to remove grease from metal parts. Drinking small amounts of TCE may cause liver and kidney damage, affect the immune system and impair the development of an unborn child. It is linked to increased risk of cancer.

(PAHs) Polycyclic Aromatic Hydrocarbons – a group of over 100 different chemicals that are made during the burning of coal, oil and gas, garbage, or other items such as tobacco. Some PAH compounds may cause cancer.

Benzo(a)pyrene – one of the 100 chemicals in the PAH group. It has been found in soils in Little Black Creek. Benzo(a)pyrene is linked to developmental and reproductive problems as well as cancer.

(PCBs) Polychlorinated Biphenyls – a mixture of up to 209 compounds. PCBs were once used in transformers and other electrical equipment because they don't burn easily and they make good insulators. Before PCBs were banned in 1977, over 450 million pounds of them were released into the environment and made their way into the sediments of our rivers, lakes and streams. When PCBs are consumed by fish, they become part of the fatty tissue in their body. As the toxics work their way up the food chain from bugs to fish, to birds, and to humans, the toxic levels actually increase. Pregnant women who eat fish with high levels of PCBs may have children born with lower birth weights, lower IQs and learning disabilities. PCBs may also cause cancer.

There are State Advisories (warnings) about eating some types of fish in Mona Lake because of this pollutant.