

Buffalo River Dredging

It's wintertime and the snow is piled high. Blue, red, and green lights flicker across porches and windows. Across the street, the Buffalo River runs silent and dark directly into Lake Erie. Old factories line the lakeshore, reminders of an industrial past. But abandoned warehouses aren't the only legacy left behind.

The **benthic sediment** of the Buffalo River is loaded with what the EPA is calling chemicals of concern (COC), most notably polychlorinated biphenyl (PCBs), polycyclic aromatic hydrocarbons (PAHs), mercury, and lead. The highest concentrations found in sediment samples were located between the lake shore and six miles upriver from the lake, with **45 known hazardous waste deposits** dotting the area of concern (AOC) throughout. PAHs can be carcinogenic and may cause birth defects. Lead is a toxic heavy metal that compromises the nervous system. PCBs are known carcinogens. Mercury is highly toxic and, along with lead and PCBs, is often found in high concentrations in fish. Heavy metals and PCBs accumulate in fat and tissues, increasing in concentration moving up the food chain. Exposure to these harmful chemicals is believed to have caused lesions and tumors in fish living in the river. The EPA cautions anglers to limit the number of fish consumed from the Buffalo River and Lake Erie. Eighty-seven percent of brown bullhead fish sampled in the river exhibited external deformities, lesions, and/or tumors.

The general consensus is that natural recovery is insufficient. The chemicals polluting the river cannot be left to degrade on their own because they bioaccumulate in the food chain and don't break down very easily. Dredging the river and the nearby ship canal has been deemed the most effective means of restoring the waterways. But that may add short-term woes to the restoration efforts. "My guess is the entire ecosystem will be disturbed for a year or two," says **Martin Doster**, remediation engineer for the Department of Environmental Conservation. But that disturbance is necessary if the situation is going to be fixed. The team is also focusing their efforts on improving the shoreline. "We're meeting with shoreline property owners, letting them know what's going on. We're taking out areas that are affecting the rest of the river, then rebuilding them to mimic nature," Doster says.

The proposed remediation project would remove one million cubic yards of sediment. The planners of this project are trying to take every possibility into consideration. "If we need to put containment booms in place, we will," says **Jill Jedlicka**, director of ecological programs at Buffalo Niagara Riverkeeper. She says that the risk of contaminants entering Lake Erie is minimal. "Even if sediment does get re-suspended in the water temporarily, it will fall back down because it's so heavy. It won't make it out into the lake. There's no risk of this affecting water intakes, and there's no risk of it affecting drinking water at all."

One of the private sector players in this project is **Honeywell**. Honeywell is the successor to **Buffalo Color Corporation**, one of the industries responsible for the contaminants in the river. "Honeywell is assisting with cleanups," confirms Doster. "We're in conversation with **Exxon-Mobil**, who own an old refinery off Elk Street. They've been cleaning up their property there." Jedlicka agrees that the cleanup has brought together strange partners. "We've got local expertise, federal expertise, and the private sector, all putting in thousands of work hours. We all have the common goal of economic and ecological recovery of the river."

Local residents at the meeting were both hopeful and skeptical. "I hope this happens. I really do," says **Mike Kless**. "I like what they're doing. My big concern is this is going to be another Peace Bridge." **Hyde Hitchcock** was slightly more cynical. "There's been no industry on the lake shore since 1980. The thing nobody wants to address is the pollution from the farming communities upstream."

The ongoing waste input is an issue that warrants concern. Most of the damage seen is the result of historical dumping, but 180 industries currently have permission to release waste into city sewers. The Buffalo River is lined with **more than 30 combined sewage overflow (CSO) points** that emit human waste and anything else that's down in the city's sewers, including what the aforementioned industries discharge down the drain. Even if the industrial waste is deemed safe, there's still a potentially steady source of human waste being funneled into the river when stormy weather causes overflows. This waste then travels downriver and into the lake, the city's main source of drinking water, fishing, and recreation. Runoff from farmland upriver may add additional nutrients such as nitrogen and phosphorus from fertilizer. Sewage and agricultural runoff can cause algal and cyanobacterial blooms, which produce a number of toxins that are harmful to humans and which impact fish and other wildlife. Followup studies in the future may need to address the

discharge from sewers and the non-point source runoff from agricultural operations surrounding the Buffalo River watershed. (bp)



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