

Fishing Results



Thank you for volunteering for the “Participatory Science Fishing Day: Monitoring Contaminant Levels in the Ohio River” that occurred on August 21, 2024. The study focuses on analyzing fish tissue to detect harmful contaminants such as heavy metals, forever chemicals (PCBs, PFAS and PFOA) and microplastics, which can impact ecosystems and human health. By comparing current contaminant levels to historical data from the Ohio River Valley Water Sanitation Commission (ORSANCO), the project tracks changes over time, identifies pollution trends, and assesses associated health risks. The findings will help inform environmental policies to improve water quality and protect public health.

Analysis of fish tissue collected by volunteers found varying results. However, **results indicate low levels of the majority of measured contaminants within channel catfish and freshwater drum** compared to established concentration limits set by the Environmental Protection Agency (EPA) and U.S. Food and Drug Administration (FDA) (see full report for all contaminants data). Samples were measured in milligrams per kilogram (mg/kg), which is a unit that helps measure how much of a chemical is found in something, like a fish, relative to its bodyweight (Fig. 1).

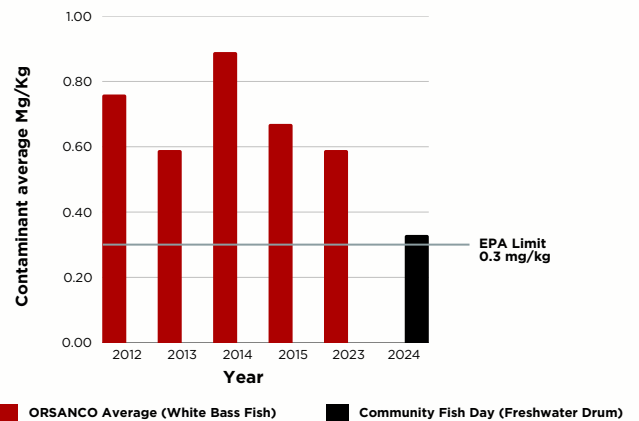
Selenium was the only metal found to be above limits published by the EPA (Graph A). The freshwater drum measured 0.33 mg/kg, while the EPA recommended limit is 0.3 mg/kg. It is important to note that selenium is a naturally occurring chemical in fish species and could be impacted by fish age and diet.



Fig. 1: Mg/Kg

Mg/Kg shows how many milligrams (tiny amounts, about the weight of a grain of sand) of a chemical are in one kilogram (which weighs about as much as a medium-sized fish). For example, if a fish weighs 1 kilogram and has 5 milligrams of a chemical in it, we say the concentration is 5 mg/kg. Scientists use mg/kg to measure the amount of a chemical in something compared to its weight.

Graph A: Selenium (Se) Freshwater Drum



This project helped us learn about the health of fish in the Ohio River and gathered important data, while involving local people in the science process. The study found that most contaminants in channel catfish and freshwater drum were below the limits set by the EPA and FDA, though selenium was above the EPA’s limit, which is naturally found in fish and affected by their age and diet. PCB levels were also below the limits, and there was no official guidance for some chemicals.

What does this mean for me and my family?

People in the community and anglers are encouraged to refer to posted consumption advisories to ensure they make informed decisions regarding fish consumption. ORSANCO has published guidelines on what fish are below recommended consumption guidance and in what amounts, so it’s important for everyone to keep checking these rules before eating wild-caught fish.

Food for Thought: Recent PCB analysis of fish tissue revealed contaminant levels well below established consumption thresholds, with all values comfortably beneath FDA guidelines. However, this raises an intriguing question: How is it that PCBs—banned in 1979—are still present in our waterways today? These chemicals, often referred to as “forever chemicals,” have a remarkable ability to persist in the environment, challenging our efforts to fully eliminate their impact.



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