



Arkansas Department of Health

4815 West Markham Street • Little Rock, Arkansas 72205-3867 • Telephone (501) 661-2000

Governor Mike Beebe

Nathaniel Smith, MD, MPH, Director and State Health Officer

Lake Ouachita Mercury in Fish (MIF) Questions & Answers

- **How does the Arkansas Department of Health (ADH) decide when to issue a fish consumption advisory?**

ADH issues fish consumption notices when there are enough fish data to indicate that elevated levels of mercury have been reached.

ADH works with the Arkansas Game and Fish Commission (AGFC), the Arkansas Department of Environmental Quality (ADEQ) and other state agencies in a Mercury in Fish (MIF) Taskforce. Typically, AGFC collects fish samples, ADEQ performs laboratory analysis of the fish tissue for mercury content, and ADH evaluates the fish data using a risk-based public health assessment method. When a specific fish species exceeds the action level of 1.0 part per million (ppm) mercury, theoretical calculations based on fish ingestion exposure to the mercury contamination are performed to determine potential risk for the public's health. If a potential hazard is determined, ADH will issue a fish consumption advisory.

- **Where is this mercury coming from?**

Mercury comes from both naturally occurring and atmospheric depositions.

An increase in mercury concentration in bodies of water is on the rise across the U.S. All 50 states have issued MIF advisories. Mercury is both naturally-occurring and man-made. Mercury contributions to water bodies are thought to be both from air deposition and from geologic formations.

Mercury occurs naturally in the environment and is found in varying concentrations in soils and sediments throughout Arkansas. Cinnabar, a natural solid form of mercury, occurs as reddish veins in or near recent volcanic rocks. Land near and surrounding the lake contains deposits of cinnabar, due to historic mining and exploration for the metal occurring in numerous areas around Lake Ouachita.

Mercury has also been used in many industrial and agricultural applications and has been associated with some smokestack emissions. Mercury can enter lakes and streams from any of these sources and it only takes an extremely small amount of mercury to build up over time and impact an entire water body.

In January 2001, the U.S. Environmental Protection Agency and the Food and Drug Administration jointly issued a fish advisory covering both commercially and recreationally caught fish, advising women who are pregnant or who may become pregnant, to limit consumption of all fish to one eight ounce fillet per week. More information and the text of this advisory can be found at: <http://www.epa.gov/waterscience/fish/advice/>.

For more information on other fish consumption advisories in Arkansas, please see: http://www.healthy.arkansas.gov/programsServices/epidemiology/Environmental/Documents/fishnotice_mercury.pdf

http://www.healthy.arkansas.gov/programsServices/epidemiology/Environmental/Documents/mercuryfish_brochure.pdf

- **How did the mercury build up in the fish?**

Mercury builds up in the food chain.

Once mercury has entered a lake or stream, it is readily taken up by bacteria found in sediments. Mercury can then build up in tissue of insects as they graze on these bacteria. When these insects are eaten by predators and these predators are, in turn, eaten by even larger predators, the mercury concentration increases every step, all the way up the "food chain" to "top predators" such as the largemouth bass or striped bass. Concentrations of mercury in large, older fish can be many times higher than those found in the insects at the bottom of the food chain.

- **What fish species are included in this advisory?**

Largemouth bass, white bass and striped bass are included in this advisory.

All fish species tested and found to contain mercury above 1.0 ppm can be considered for a MIF advisory. Specifically, for the Lake Ouachita MIF advisory, species include: largemouth bass (LMB) 13 inches or longer, white bass 13 inches or longer, and striped bass 25 inches or longer.

- **I've eaten fish from Lake Ouachita in the past, am I okay?**

Likely, if the fish were eaten in moderation.

The process for calculating risks from exposure to mercury is very conservative. Methyl mercury will naturally leave the body over time once exposure has stopped. This elimination process occurs at a rate of roughly one half of the total amount in the blood every two months. Any health risks associated with eating fish from the areas listed in a fish consumption advisory are based on long-term consumption and are not tied to eating fish occasionally. Fish are an excellent source of protein and can be an important part of a healthy, diverse diet as they are low in saturated fat and high in omega-3 fatty acids. The American Heart Association recommends that individuals eat at least two fish or seafood meals weekly. If you have any questions about risks from mercury you may have consumed in the past, please contact your health care provider.

- **Is Lake Ouachita a safe source for drinking water supplies?**

Yes.

Lake Ouachita is an excellent source for drinking water supplies. This advisory is specific for mercury in fish and not the water. The food chain build-up of mercury is unrelated to the lake water quality. In fact, water supplies obtained from Lake Ouachita are regularly and routinely tested and meet all safe drinking water act standards.

- **Is it safe to fish in Lake Ouachita?**

Yes.

Recreational fishing is not affected by this advisory. It is safe for the general population to consume largemouth bass, striped bass, or white bass at or below the posted consumption rates and consume other fish species that are not on the advisory. It is also safe to handle these fish in catch and release situations.

Occasional fish consumers, such as vacationers and sport anglers, are at little risk to adverse health effects associated with mercury because their overall fish consumption is generally low and may come from many different locations.

- **Is Lake Ouachita safe to swim or boat in?**

Yes.

Once mercury enters an aquatic ecosystem such as a lake or stream, it is quickly accumulated in the muscle tissue of living organisms such as aquatic insects and fish where it primarily remains, moving from organism to organism. Thus, in aquatic ecosystems, the vast majority of the mercury is most likely contained in the organisms inhabiting that system, leaving only very small amounts in the water. Swimming, boating, water skiing or taking part in other recreation in and around the water does not present a human health hazard due to mercury.

- **When will the advisory be lifted?**

If mercury in fish levels consistently remain under the target level of 1.0 ppm.

During routine and regular testing of fish samples collected in Lake Ouachita, should mercury levels show a steady decrease under 1.0 ppm, the MIF task force will re-consider the fish consumption advisory.

- **How many people have had mercury poisoning in AR?**

ADH is not aware of any current methyl mercury poisonings due to fish consumption.

There are other factors to consider in addition to the ingestion of mercury-contaminated fish, such as inhalation and dermal exposures from liquid mercury, meth & meth lab ingredients, occupational exposures, etc.

- **How often are fish tested for contaminants?**

Fish are collected and tested regularly for mercury.

A variety of fish species in Lake Ouachita will continue to be regularly sampled and monitored to identify mercury concentrations. Typically, the MIF task force will determine the frequency and location of routine sampling.

- **What is the fish advisory at Lake Ouachita?**

ADH has issued a fish consumption advisory recommending that people limit consumption of largemouth bass, white bass, and striped bass caught from Lake Ouachita due to mercury contamination.

For sensitive groups such as pregnant or breastfeeding women, women planning to be pregnant, and children under seven years of age, no fish meals should be consumed of largemouth bass (13 inches or longer), white bass (13 inches or longer), and striped bass (25 inches or longer).

For the general public, no more than two meals per month should be consumed of largemouth bass (13 inches or longer), white bass (13 inches or longer), and striped bass (25 inches or longer). Other fish species not listed are considered safe to eat in larger quantities.

This advisory does not limit the recreational use of Lake Ouachita for fishing, bird watching, swimming, boating or other types of recreational uses or as a drinking water source.

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