



FAQ's Associated with the Clear Lake Fish Consumption Advisory

*Prepared by the Seafood and Aquatic Life Group
February 2007*

Q: What is mercury?

A: Mercury is an element that occurs naturally in the environment in several forms. In the elemental form, mercury is a shiny silver-white liquid. Mercury can combine with other elements such as chlorine, carbon, or oxygen to form mercury compounds. These compounds are called organic mercury if they contain carbon and inorganic mercury if they do not. All forms of mercury are poisonous. The type of mercury found in fish is in the organic form and is called methylmercury.

Q: How does mercury enter the environment?

A: Mercury is found throughout the environment as a result of normal breakdown of the earth's crust by wind and water. Air, water, and soil can contain mercury both from natural sources and from human activity. Inorganic mercury can enter the air from deposits of ore that contain mercury, from the burning of fuels or garbage, and from the emissions of factories that use mercury. Mercury released to the air can be carried for long distances.

Q: How does mercury get into fish?

A: Mercury in water settles to the bottom where it mixes with the sediment. Here it can be changed into an organic form called methylmercury and enter the food chain. Small aquatic plants and animals can absorb the methylmercury in the sediment. Small fish eat these plants and tiny animals and larger fish eat smaller fish. At each step, the concentration of mercury increases. Higher amounts of methylmercury are generally found in older fish and predatory fish.

Q: What is the source of mercury in the fish in Clear Lake?

A: The source is unknown at this time. However, it is important to note that the source may not be as important as the physical and chemical properties of the lake. Large amounts of organic material and acidic or low pH water are conditions that make mercury available to biological life. Once the mercury becomes available, it is magnified upward through the food chain. Small fish pick up the mercury. Many small fish are eaten by larger fish, and in turn the large fish are eaten by even larger fish. The upper levels of the food chain, the largest fish, have the highest levels of mercury.

Q: How can mercury affect my health?

A: Methylmercury can harm the brain and nervous system of adults and children. Young children are particularly sensitive to mercury because their bodies are still developing. The brain and nervous system in a developing fetus can be permanently damaged if the mother eats food containing high enough levels of mercury. In young children exposed prenatally to low levels, reported symptoms have included developmental effects such as late walking (> 18 months) or late talking (>24 months). Exposure to higher levels may result in abnormalities of the central nervous system, retardation, or seizures. Some children may experience a type of allergic reaction to mercury, with symptoms such as discoloration and itching of hands and feet, insomnia, and sensitiveness to light. Adults exposed to increasing levels of methylmercury may progressively experience nervous system disorders including tingling of the fingers and toes, irritability, memory loss, depression, insomnia, difficulty in walking or speech, visual changes, or hearing defects.

Q: How can methylmercury enter and leave my body?

A: Organic mercury in fish or other foods that you might eat enters your bloodstream easily and goes rapidly to other parts of your body, including the brain. Organic mercury that is ingested is eliminated from the body primarily through the feces. The half-life for elimination of mercury is approximately one to two months. Mercury may be found in hair or blood samples. Since there is no placental barrier to mercury, the fetus is at increased risk for methylmercury poisoning.

Q: Can I be tested to see if I have mercury in my body?

A: Blood or hair samples can be taken in your doctor's office and tested in the laboratory. The amount of mercury that is found may be used to predict the potential for adverse health effects. Blood tests are useful during and shortly after mercury poisoning. Once mercury is in the hair it remains until the hair is cut.

Q: Are all fish in Clear Lake equally affected?

A: No. The Texas Department of State Health Services collected and analyzed 15 legal size fish representing 4 different species from Clear Lake. Of these fish, bowfin, largemouth bass and freshwater drum were consistently shown to contain elevated levels of mercury. In general, smaller, younger fish contain lower levels of mercury than older fish; and predatory fish contain higher levels of mercury than non-predatory fish.

Q: What recommendation has the Texas Department of State Health Services made to protect human health?

A: A consumption limit of two meals per month of bowfin, largemouth bass, and freshwater drum has been recommended. Each meal should not exceed eight ounces for adults or four ounces for children under twelve (12) years old. Women who are of childbearing age, who are or who might become pregnant, or who are nursing, should not consume bowfin, freshwater drum, or largemouth bass from Clear Lake. No limitations were recommended for other species.

Q: I have been eating these fish all my life. Will I have adverse health effects?

A: The recommended consumption limits made by the Texas Department of State Health Services have allowed a margin of safety below those levels that could result in adverse health effects; however, eating more than the recommended amount of bowfin, largemouth bass, and freshwater drum from Clear Lake does not necessarily mean that a person will have adverse health effects.

Q: Should I stop eating fish?

A: No. Fish are an important source of protein in the diet. The Texas Department of State Health Services only recommends that you limit consumption of those species, which contain the highest levels of mercury (bowfin, largemouth bass, and freshwater drum).

Q: Why is it safe to eat catfish and not bass?

A: Different species eat different types of food. Mercury levels will be higher in species that are predators and eat smaller fish.

Q: How can I reduce the amount of mercury that I get from fish?

A: In general, when you have a choice you should eat smaller fish and eat fish other than bowfin, bass, and drum.

Q: Will cooking or cleaning fish a certain way reduce the mercury level and make the fish safe to eat?

A: No. Mercury levels are not affected by cooking, and since the mercury is in the muscle tissue, which is the portion of the fish we eat, cleaning or filleting will not make the fish safe.

Q: I live on a lake in the Piney Woods of East Texas that is not listed in your advisory. I am worried about mercury in the fish in my lake. What should I do?

A: If you are eating fish from a lake we have not sampled, but which fits in the category or type of lake we have sampled (acidic water and high organic material) and you are concerned, you should follow the consumption recommendations we have provided in the advisory for the other lakes. These recommendations would be protective if the levels of mercury in fish from your lake are similar to the ones we have sampled. Choosing smaller fish and fish of other species as indicated above will also reduce any risk that exists. Generally, smaller fish have lower levels of contaminants.

Q: Will additional sampling be conducted?

A: Yes. As resources become available, the Department of State Health Services will continue to monitor Clear Lake for mercury and other contaminants that could pose a threat to human health.

Q: Should we stop fishing for bass and freshwater drum?

A: No. Recreational fishing for these species does not need to stop. Catching and releasing larger fish or consuming smaller legal fish in amounts below those recommended by the Texas Department of State Health Services poses no health risk from mercury poisoning.