

Breaking the mercury myths

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LAKE COUNTY Clear Lake recently received worldwide publicity in an Associated Press (AP) article as the "world's most mercury polluted lake." Whether that's true or not is debatable as the Environmental Protection Agency (EPA) doesn't list any lake as the "world's worst." However there is no argument that mercury is a serious problem at Clear Lake, as well as at a number of other lakes in Northern California.

According to Rick Sugarek, EPA project manager for Sulphur Bank Mercury Mine Superfund, swimming and recreating in Clear Lake is completely safe and the water meets drinking water standards.

Sugarek said the AP article referenced a study done with 44 volunteers from the Elem Indian tribe who had their blood tested for mercury levels. The average parts per trillion of mercury in the blood was 18 for those 44 tested. The average for any person who eats fish, anywhere, is between 0 and 20. For mercury to be considered clinically toxic the number would be approximately 200 parts per trillion. In other words, the volunteers did not have higher levels of mercury in the blood than any other people who eat fish anywhere in the country. Though nine of the volunteers exceeded 18 parts per trillion, none exceeded 40 parts per trillion.

The Office of Environmental Health Hazard Assessment (OEHHA) regularly releases advisories on Mercury in Fish.

Mercury in Clear Lake first drew attention back in 1981 when Department of Fish and Game (DFG) fishery biologist Larry Week suspected that due to the Sulphur Bank Mercury Mine's proximity to Clear Lake (the mine is located in the Clearlake Oaks Arm) that it was possible the fish in the lake were being contaminated with mercury. He took samples of bass and catfish and found elevated levels of mercury in their tissue. That discovery resulted in the DFG placing warnings in 1986 on who should eat the fish and how much they can safely consume. That warning still stands today. Women who are pregnant or plan on becoming pregnant, nursing mothers and children under the age of 17 are advised not to eat any fish from Clear Lake. Men and women who are past the childbearing age are advised to eat no more than four meals a month. A meal is considered to be six ounces of fish. Clear Lake was one of the first lakes in the state to have those warnings. However, as fish in other lakes were tested the warning spread across the state. Today, in addition to Clear Lake, Lake Pillsbury and Lake Berryessa have similar warnings.

When the DFG first came out with a warning about the fish in the lake, Lake County resorts experienced a major drop in business. Many predicted that the tourist industry was finished in the county. However, after a few years the tourism resumed and even increased. A study done by the DFG in 1996 showed that approximately 85 percent of the fishermen at Clear Lake practiced "catch and release" and only a small percentage of the fishermen ate their fish. Largemouth bass are the dominate game fish in the lake and according to the DFG study, more than 90 percent of the fishermen release the bass. So the mercury contamination has had only a minor impact on the fishing.

Ken Taddie of the Indian Beach Resort in Glenhaven says that only a few of his customers ask about the mercury in the fish. "Our guests catch bass, crappie and catfish from our docks and many of them take the fish home to eat while others release the fish. The mercury warnings haven't had an impact on our business," Taddie said.

Mercury gets into the food chain when the element leeches into the lake and is then converted to methyl mercury through bacterial action. The zoo and phytoplankton feed on the bacteria and the young fish feed on

the plankton. In turn the larger fish feed on the younger fish and the methyl mercury travels up the food chain. Mercury is accumulative in the fat and muscle tissue of the fish and the larger and older the fish the more mercury in its system. Older bass, catfish and carp have the highest levels of mercury at Clear Lake.

According to the DFG's Clear Lake Fishery Management Plan, fish in the Clearlake Oaks arm have the highest concentration of mercury in their flesh. The fish in the north end of the lake have lower levels of mercury; the reason being that bass, catfish and crappie tend to spend their entire life in the same area and don't migrate around the lake.

A study done by a research team from the University of California, Davis determined that the mercury in Clear Lake came solely from the Sulphur Bank Mine. The mine was placed on the government's Superfund list in 1991 and the clean up was started. The mine was opened in 1862 and originally sulphur was mined for making gun powder. Later mercury was found and was mined for extracting gold from ore. The mine was closed in 1957. The problem was that mercury continued to leech into the lake.

Mercury also leeches into lakes by a natural process. For example, the fish in Lake Pillsbury also have elevated levels of mercury but there are no mercury mines within 30 miles of the lake. The mercury gets into the lake from run-offs from the surrounding hills.

According to scientists once the mercury is in the lake it's nearly impossible to remove. The only solution would be to dredge the lake which is an impossible task.

For a comprehensive clearinghouse of information on Sulphur Bank Mine that is fully-endorsed by the EPA go to cleanlake.org or to check advisories on mercury in fish go to www.oehha.ca.gov.