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Exhaustive test reveals mercury levels in Bay Area fish sport fish

Jane Kay, Chronicle Environment Writer

Tuesday, November 6, 2007



The most exhaustive study to date on mercury contamination in Northern California sport fish has found that some of the most popular species, including striped bass and carp, have the highest concentrations of the potent neurotoxin.

Government and private researchers behind the three-year, \$4.7 million study say their findings shouldn't discourage diners from eating fish from the San Francisco Bay estuary - as long as they limit how much they consume, learn about the best and worst species to eat and avoid the most polluted fishing spots.

The study, released today, is part of a campaign to educate the hundreds of thousands of anglers who each year fish from boats and dozens of popular sites, including San Francisco's Ferry Building pier, the Berkeley Marina and the Antioch Harbor.

Mercury contamination can be particularly dangerous for children and women of childbearing age. In children, too much mercury can cause severe problems such as retardation and deafness. Even low amounts can delay a child's ability to walk and talk. It also can cause shorter attention spans and learning disabilities. In adults, mercury can cause fertility problems, memory loss, tremors and possibly heart disease, studies show.

For nearly 200 years, old mining operations, leaking landfills, sewage treatment effluent and storm runoff from farms and cities have dumped mercury into the bay. Air pollution from coal-fired power plants thousands of miles away also contribute to the problem.

Scientists estimate that it could take 50 to 100 years to rid the estuary of unsafe concentrations of the potent neurotoxin that accumulates in the fish tissue. The bigger the fish - and the more it eats of other contaminated creatures lower on the food chain - the higher the mercury level.

The study was financed by the state and federal governments and conducted by the nonprofit San Francisco Estuary Institute, UC Davis and three state agencies. The scientists caught 2,000 fish at 70 locations.

Although today's results focus on mercury contamination, the continuing study also is compiling data

on fish contamination from dioxins, PCBs and other pollutants that accumulate in fatty fish and bottom feeders.

On average, striped bass, spotted bass, largemouth bass, carp, crappie, channel catfish and white catfish had some of the highest levels of mercury contamination, the results show.

Lower levels were found in blue gill, chinook salmon, red-ear sunfish and steelhead trout.

"There are some species that tend to have low concentrations of mercury throughout the watershed, and people can consume those fish and still enjoy the health benefits," said Jay Davis, an environmental scientist at the San Francisco Estuary Institute and lead author of the study.

"It's a matter of knowing which species to target and which locations have lower concentrations," Davis said.

Tests also indicate that the southern delta is much cleaner than the San Joaquin River, including fishing spots along the Port of Stockton and farther south. No fish should be eaten from the Port of Stockton, Davis said.

The state is using the new data to improve its health advisories that cover fish caught in local waters, said Bob Brodberg, a senior toxicologist for the state Office of Environmental Health Hazard Assessment, a branch of the state Environmental Protection Agency.

The message to people who eat out of the bay, said Brodberg, is "fish can be very good for your health. But you need to hook into our advisories to find out what species of fish and how much you can eat at locations where you fish."

And that goes for both recreational anglers as well as the subsistence fishermen who rely on local waterways to feed their families, he said.

Fish is an excellent source of omega-3 fatty acids and other nutrients that aid the heart as well as the brain in developing babies and children. In adults, fish in the diet helps prevent strokes, reduces inflammation, treats depression and supports good vision, researchers say.

However, consuming fish contaminated with mercury, PCBs or other chemicals can decrease the health benefits of eating fish, state officials say.

And it's not only local fish that can have high levels of mercury - an odorless, tasteless toxicant. Large oceangoing fish such as swordfish, shark and albacore tuna can contain enough mercury to harm developing fetuses, young children and, in some cases, adults.

Women who are pregnant or who may become pregnant and children need the greatest protection from mercury. The scientists involved in the latest research are trying to spread that message through

Women Infants and Children, a federally financed state nutritional program, and the Food Stamp Nutrition Education Program.

It's hard to know how many people eat fish from the bay. Many just fish for fun and throw the fish back. Others share them with friends.

According to state Department of Fish and Game, about 300,000 people a year purchase a \$5.50 stamp that allows fishing from boats and banks. The number doesn't include fishers at piers, who don't need licenses, or those who don't buy the stamps at all.

Most of the people who fish in the bay are English-speaking. But many ethnic groups - including Filipinos, Vietnamese, Chinese, Laotians, Cambodians, Hmong and Russians - also rely on local waters.

State agencies are linking with groups - such as United Cambodian Families in Stockton and Todos Unidos in Antioch - that help to spread the message of fish contamination in workshops and other efforts.

Eco-Village Farm Learning Center in Richmond, which teaches organic gardening and conservation in the East Bay, has posted advisory signs at about 15 sites around the area, including the Pittsburg Marina, Antioch Pier, Whiskey Slough in Holt and in the Stockton harbor near the port.

It's difficult to teach people about eating fish safely, said Shyaam Shabaka, the director of the Eco-Village center.

"Most people don't follow the portion part. They eat fish until it's all gone," Shabaka said.

Out at the Pittsburg Pier on a recent day, Sam Rokocoko was out fishing.

"I fish four times a week," said the Fiji immigrant. He picked his job in Pittsburg so he'd be close to the pier. "I love fishing. I come and see the water, and sit down and enjoy the view."

Rokocoko follows the advice on the warning signs and says he thinks many others do, too. But someone has been tearing down the signs that the groups put up, he said.

And although fishing regulations contain consumption advisories, counties are not required to post warnings in areas where people fish.

Sacramento, Yolo, Solano, Contra Costa and San Joaquin counties have posted signs. Others, such as Lake County do not post warnings, Shabaka said.

In Lake County, Clear Lake is a popular fishing spot, even though it is polluted with mercury from several mines, including Sulphur Bank mine, a federal Superfund site.

Raymond Ruminski, director of the Lake County Public Health Department's environmental health division, said the county doesn't post fish advisories at the boat ramps, docks or public parks because the issue has "never came up."

"We rely on people getting the information from the summary handbook handed out by Fish and Game," he said.

State Department of Public Health officials did not respond to repeated requests for comment on this article.

A daylong forum on mercury contamination in fish is scheduled for 8:30 a.m. today at the Sierra Health Foundation Conference Center, 1321 Garden Highway, Sacramento. It is open to the public.

Online resources

Read the report:

www.sfei.org

Look up fish-consumption advisories for waterways in your area:

links.sfgate.com/ZBLY

For information on contaminants found in ocean fish:

links.sfgate.com/ZBGN

Calculate your mercury intake from fish you eat:

www.gotmercury.org

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Health guidelines

Eating tips: It can be confusing to follow the state health guidelines when it comes to eating fish that come out of San Francisco Bay estuary. Here are some tips. **A8**

Seafood choices: For information on choosing seafood that is both healthy and sustainably caught, go to www.sfgate.com/green.

Contamination: For information on contaminants found in ocean fish, go to links.sfgate.com/ZBGN

E-mail Jane Kay at jkay@sfgate.com.

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