

U.S. safety net in tatters

Seafood shoppers are at risk for mercury exposure as regulators ignore their own experts, issue flawed warnings and set policies aiding industry



Tribune photos by Chuck Berman

Tracy Siddall prepares freshly caught walleye for shipping in Port Stanley, Ontario. Canada's mercury limit for commercial fish is twice as strict as the U.S. limit.

Second of three parts.

By Michael Hawthorne and Sam Roe
Tribune staff reporters

Shipped from Singapore, the swordfish entered the U.S. this year without being tested for the toxic metal mercury.

When a fillet from that fish reached a display case at a supermarket in suburban Des Plaines, it carried no government warning labels, even though federal officials know swordfish often is so contaminated that young children and pregnant women should never eat it.

And when the Tribune bought and tested this particular piece of fish, the results showed not just high amounts of

THE SERIES

SUNDAY

Popular supermarket fish are contaminated with high levels of the toxic metal mercury

MONDAY

For decades, the U.S. government has neglected the mercury problem

TUESDAY

Canned tuna is more hazardous than authorities have disclosed

ON THE WEB

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mercury, but levels three times the legal limit.

This repeated neglect by the U.S. government—the lack of mercury testing, the failure to adequately warn consumers, the unwillingness to enforce its own rules—has unnecessarily put Ameri-

cans at risk for decades, a Tribune investigation shows.

Year after year, the federal government has failed to fully disclose the hazards of mercury in fish to the public.

In some cases, regulators have ignored the advice of their own scientists

who concluded that mercury was far more dangerous than what consumers were being told.

In other instances, regulators have made decisions that benefited the fishing industry at the expense of public health.

Even though mercury can cause learning disabilities in children and neurological problems in adults, regulators do not even bother to routinely check fish for the metal. This leaves consumers with little idea about which fish are most hazardous.

Although regulators have issued numerous warnings for fish caught recreationally, they have rarely done so for seafood sold in supermarkets, where

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TRIBUNE INVESTIGATION THE MERCURY MENACE

Science changes, but not standards

SEAFOOD

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most people buy their fish. The U.S. government's only guide for consumers—a mercury warning posted on federal Web sites but not required in stores—is so flawed and misleading that people following the advice still could expose themselves to too much of the toxic metal.

The Food and Drug Administration, the agency responsible for the safety of commercial seafood, does not dispute recent studies showing that consumers might be harmed by relatively low levels of mercury. But the government's permissible mercury limit in fish has remained the same for 25 years.

That limit remains one of the weakest in the Western world. For example, fish sold in America is allowed to have twice as much mercury as seafood sold in Canada.

The American standard "reflects the science of the 1970s," said Kathryn Maffioletti, a top scientist at the U.S. Environmental Protection Agency and co-author of an agency report to Congress on mercury. "The science has changed, but the standard hasn't changed with the science."

In a series of interviews with the Tribune, the FDA defended its handling of the mercury issue, saying its decisions are based on the best scientific evidence available at the time.

"Am I pleased with the way our department has handled this issue? Yes," said David Acheson, the FDA's chief medical officer. "Outstanding job all around."

Acheson noted that the agency does not want to scare people away from eating fish because seafood is a low-fat source of protein and offers many other health benefits.

The FDA has a limited budget, he said, making it difficult to regularly inspect fish at ports or supermarkets for mercury contamination—or even to enforce the agency's own standards. "Going out and using our resources to test individual fish, with the goal of protecting public health, is not a good use of our tax dollars," Acheson said. The agency is well aware, he said, that some species contain high levels of mercury and has tested enough of those fish to decide how best to protect the public.

But Acheson acknowledged more testing is needed for certain kinds of fish. The agency is taking 15 samples each of the four species this year to address the lack of information, he said.

The FDA's main strategy to protect consumers from mercury has been to issue warnings, though those advisories have been criticized as inadequate.

Last year, the FDA and the EPA jointly warned pregnant women, nursing mothers, women of childbearing age and young children not to eat shark, swordfish, king mackerel and tilefish because of high mercury levels. The warnings cautioned those groups to consume no more than 12 ounces of fish a week, including no more than 6 ounces of canned albacore tuna.

But a former senior EPA toxicologist said the advice fails to reflect the government's own calculations about how much fish—and what kinds of fish—people can safely eat each week.

The warning "was not based on science," said Deborah Rice, who helped develop the government's mercury exposure limit for the EPA and now works for the state of Maine.

Mercury's hazards have been known for centuries. In the 1800s, hatmakers using a compound of the silvery, liquid metal to shape wood hats developed trembling, twitching and other symptoms that people associated with madness. Hence, the term "mad as a hatter."

But the risks in seafood did not fully come to light until the 1950s, when a bizarre tragedy unfolded in the Japanese fishing village of Minamata. Residents noticed cats were stumbling about, sometimes collapsing into the bay and drowning. Locals called it the "cat dancing" disease.

People later learned that a nearby chemical plant had dumped tons of mercury into the bay, contaminating the fish and those who ate it, including the cats. Dozens of people died; some women gave birth to babies who were severely disabled and scores suffered a range of neurological problems.

The scientific world was slow to recognize the implications of the Minamata disaster for other people exposed to mercury at much lower levels. It was not until a decade later, in 1969, that the FDA set a guideline for the amount of mercury allowed in commercial fish.

The following year, testing led the FDA to order more than 13 million cans of tuna off store shelves and to urge all Americans to stop eating swordfish.

But the agency's crackdown on mercury would be short-lived.

AFTER COURT BATTLE, FDA FEELS RATTLE

In the summer of 1977, in a rural Florida Panhandle courtroom, four swordfish went on trial. On one side of the room was the FDA, which had seized the fish from a seafood warehouse in Panama City. FDA officials said the swordfish had mercury levels nearly twice the permissible limit and represented a health threat.

On the other side were lawyers for the nation's swordfish distributors, who had sued to block the government's seizure. The industry argued that mercury in swordfish came from natural, not man-made, sources and therefore could not be regulated under the nation's food-safety laws.

After a four-day trial featuring scientists who debated how much mercury it takes to cause neurological harm in children, a federal judge sided with the fishing industry. Though he ruled that the four swordfish were indeed contaminated by man-made pollution, he said Americans did not eat enough of the fish to be at risk.

More significantly, he dramatically weakened the rules on how much mercury would be acceptable in swordfish.

Pointing to a pair of studies presented at the trial, the judge increased the allowable amount of mercury from 0.3 to 1 part per million in fish tissue—a number slightly above the average level found in the four swordfish, court records show. Under this new standard, the four swordfish would be legal.

Although the judge and an appellate court that upheld his decision agreed the limit could change based on future research, the FDA



Ping Lifanda holds a piece of swordfish at a wholesaler in Chicago. When the FDA eased mercury standards for commercial fish, it cited a U.S. report concluding the change would aid industry.

backed off.

"They left us alone after that," recalled Charles Anderson, the fisherman whose company owned the swordfish on trial.

Instead of fighting for tougher standards, the FDA applied the court-ordered mercury limit to all seafood sold in America.

Announcing the change in the Federal Register in 1979, the FDA said new data showed that consumers were not exposing themselves to as much mercury as officials had estimated when they set the more stringent 0.5 guideline a decade earlier. The FDA said the new data came from a report by the National Marine Fisheries Service, an arm of the Commerce Department.

But the FDA highlighted one aspect of that report that had nothing to do with public health.

Relaxing the acceptable level of mercury in fish, the report said, would "provide a significant economic benefit to those industries most seriously affected" by the more stringent limit and "enhance the future development of a number of presently underutilized fisheries."

Moreover, the report said, a less restrictive rule "would significantly increase consumer confidence in seafood."

AS FISH SALES BOOM, TESTING STOPS

The report proved to be prophetic. With the relaxed rules in place, the seafood industry boomed. After decades of stagnant growth, fish consumption grew 30 percent from 1980 to 1990.

One reason was America's fitness craze. People were joining gyms, health food stores were popping up and doctors were recommending fish as a high-protein, heart-healthy food.

During these years, the FDA did virtually nothing to warn people of the mercury threat. Nor did the agency test any fish for mercury throughout the 1980s, according to FDA data.

The agency also conducted little basic research, such as studies to determine which fish have the most mercury or whether there were high-mercury "hot spots" in the oceans that fishermen should avoid.

It took a sharply critical 1991 report from the National Academy of Sciences, the nation's leading scientific advisory body to coax the FDA to resume significant testing of fish for mercury.

The agency promised several times during the 1990s to re-evaluate its mercury limit in fish. But the FDA never changed it, even though other government scientists were concluding the metal was far more harmful than previously thought.

Once again, an important calculation—this one aimed at determining how much mercury can be safely consumed—was at the center of a debate.

In 1997 the EPA, the agency responsible for monitoring recreationally caught fish, recommended a mercury-exposure limit in people based on the most recent scientific studies about the health risks.

The EPA took a far stricter approach than the FDA did in setting its safety standard for mercury, concluding that a person could safely ingest only 0.1 grams of mercury per kilogram of body weight each day. The FDA's equivalent was 0.4.

When the National Academy of Sciences weighed in again on the mercury issue by endorsing the EPA findings, the FDA responded in 2001 with a consumer warning, cautioning high-risk groups not to eat certain fish and to limit their consumption of all seafood.

But the FDA warning did not reflect the EPA's science on what constitutes acceptable exposure

to mercury. Based on the FDA's own testing, many consumers following the agency's advisory still could absorb too much of the toxic metal. For example, if a 161-pound woman—the average weight of U.S. females of childbearing age—ate 12 ounces of lobster in a week, she would expose herself, on average, to twice as much mercury as what the EPA considered acceptable. If she ate 12 ounces of orange roughy or about two meals, she would be three times over the limit.

Under pressure from environmental groups and public health advocates, the FDA decided in 2002 to work with the EPA to issue a new warning that the FDA said would be based on the best available science.

After two years of meetings, the agencies released, with great fanfare, a rare joint public health warning, cautioning Americans about the risks of mercury in both commercial and recreationally caught fish.

But again, the warning was deeply flawed. While it advised people to limit consumption of canned albacore tuna, it did not warn about other fish that, according to the government's own data, contained even more mercury, such as grouper, orange roughy and marlin.

More important, the warning still did not reflect the EPA's exposure limit. Many consumers following the advice would still expose themselves to too much mercury even by eating one meal of fish a week.

In interviews with the Tribune, Acheson, the FDA's chief medical officer, said the agency used the EPA limit as a guide but did not view it as a clear line between risk and no risk.

He said the joint mercury warning, which is still used today, had to "strike an important balance between the benefits of eating fish and the risks of exposure to mercury. It's not as simple as 'avoid fish because it has mercury in it.'"

Top EPA officials signed off on the joint warning even though it contradicted the agency's own science. Benjamin Grumbles, an EPA assistant administrator, said in an interview that the warning was not meant to be the "final say on the matter."

When asked if the joint mercury warning protects consumers, he said, "It's an important and protective step forward."

STATES STEP IN WHERE FEDS FAIL TO ACT

In recent years, the major government effort to crack down on mercury in fish has come not from the FDA, but from states.

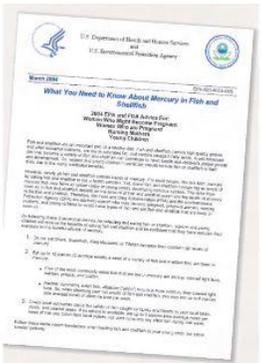
Several states have issued more-restrictive advice about mercury in commercial seafood than the federal government.

Based on its own review of the FDA's data about mercury levels in fish, Washington state urges women of childbearing age and children 6 and younger to not eat fresh or frozen tuna at all, and to limit eating canned tuna based on how much they weigh.

Wisconsin and Minnesota recommend that at-risk groups limit consumption of halibut, tuna steak and canned albacore tuna to two meals a month. Minnesota also extends the warning to lobster.

In 2003, California successfully sued to get several supermarket chains to post mercury advisories throughout the state.

One of the firms, Safeway, began this fall to post warnings in its stores nationally, including Dominick's, a dominant grocery chain in the Chicago area. Two other chains, Jewel and



U.S. warning misleads public

The Food and Drug Administration and the U.S. Environmental Protection Agency in 2004 issued a joint warning, advising consumers to limit the consumption of certain kinds of seafood bought in stores or caught recreationally.

Below are some of the recommendations and why they are inadequate:

"Do not eat Shark, Swordfish, King Mackerel, or Tilefish because they contain high levels of mercury. Eat up to 12 ounces (2 average meals) a week of a variety of fish and shellfish that are lower in mercury."

Consumers could interpret this to mean they are not at risk if they eat fish "lower in mercury" than the four species named. But some fish with lower levels than those four still have amounts so high that many people would exceed EPA exposure guidelines if they ate 12 ounces in a week.

"Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon, pollock, and catfish."

Shrimp, salmon, pollock and catfish generally have low amounts of mercury. But the FDA's decision to list canned light tuna—a top seller in the U.S.—as low in mercury was not based on science. Rather, it was based on the desire to address "market share," an FDA official told an advisory panel in 2003. One scientist on that panel quit because he thought the FDA was down-playing the risk of canned tuna.

"Another commonly eaten fish, albacore (white) tuna has more mercury than canned light tuna. So, when choosing your two meals of fish and shellfish, you may eat up to 6 ounces (one average meal) of albacore tuna per week."

Many people who eat 6 ounces of albacore tuna in a week would exceed the EPA's guidelines for mercury exposure based on their body weight. Also, the advisory does not warn consumers about several other kinds of fish that the government's tests show contain more mercury on average than albacore. These include grouper, orange roughy and marlin.

Whole Foods Market, have begun posting versions of the warning in some stores.

The federal government has promised to take additional steps of its own. As recently as 2001, the FDA voted in an agency policy handbook to take legal action to remove seafood from the market if it exceeded the federal mercury limit of 1 part per million. But it has not done so—and it has not even conducted enough tests to determine which fish are in violation.

In recent interviews, the FDA said it had no immediate plans to start routine testing of fish, improve warnings or re-evaluate its mercury limit. For now, agency officials said, they will continue to focus on educating consumers.

Many who have closely followed the issue said the FDA's outreach has been tepid at best. Michael Shannon, a pediatrician at Children's Hospital in Boston who sat on an FDA panel that advised the agency on its recent mercury warnings, questioned whether the government has effectively informed the public.

"I read the FDA Web sites," he said, "but you would be amazed at how few people in the American public do."

FDA and EPA officials defend their educational efforts. "We have done a very good job with outreach," the FDA's Acheson said. The agencies said that in addition to posting information online, they are distributing 6 million mercury pamphlets to doctors, nurses and other health professionals in every state.

The central feature of the pamphlets: the same government warning that fails to adequately protect consumers. mhauthorne@tribune.com sroe@tribune.com

TUESDAY: Canned tuna is more hazardous than authorities have disclosed.

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CALCULATOR: Use the Tribune's fish mercury calculator to determine if your favorite seafood puts you at risk.

GRAPHIC: See how mercury gets to your dinner table.

VIDEO: Reporter Michael Hawthorne discusses the series.

PHOTO GALLERY: See where the fish we eat comes from.

SURVEY: Tell us about your fish-eating habits.

LIVE CHAT: Ask the reporters questions, 1 p.m. Tuesday.