

# Researchers find way to minimize mercury in San Francisco Bay

Andrea Koskey, San Francisco Examiner, 12-22-10

New research from the University of San Francisco has zeroed in on a way to limit the amount of mercury entering the food chain in San Francisco Bay.

Assistant professor Allison Luengen, who has been studying the pollutant for seven years, said her research aims to limit the amount entering the Bay's ecosystem by understanding how the chemical is absorbed.

Luengen said she found that organic matter — from decomposed leaves to wastewater discharge — prevents the most lethal mercury from being absorbed by phytoplankton and passed on to larger fish and eventually the humans that eat them. Mercury, if ingested, is extremely toxic to humans.

“The more organic matter in the water the better,” she said. “I’m not advocating the dumping of wholesale products, but it seems the organic matter affects things in the Bay.”

The new findings, though, will not help eliminate mercury that is already in the Bay.

“I don’t think it’s possible to eliminate it given how much is out there in our watershed,” said Jay Davis, lead scientist regional monitoring program with the San Francisco Estuary Institute. “Mercury is a challenging pollutant to deal with.”

The institute has been researching mercury and other environmental pollutants in the Bay since 1994. Davis said the levels of mercury have gone unchanged since the 1970s, when research was first conducted.

However, Davis said the work that Luengen and other scientists nationwide are doing to find ways to prevent the most lethal form of mercury — methylmercury — from being absorbed and consumed is still beneficial.

“Reducing the total amount is what we all want,” he said. “Because it takes a very small amount of mercury to contaminate our food.”

Mercury has been flowing into the Bay since the Gold Rush. The metal is naturally attracted to gold and was heavily used during gold mining. As a result, thousands of pounds were dumped into rivers in the Sierra Nevada in the 1850s, ultimately contaminating all the waters that lead to the Bay.

Thousands of pounds of mercury enter the Bay each year, according to Deb Self, executive director of the San Francisco Baykeepers, an environmental advocacy group.

And up until four years ago, the region did not have a management plan to clean up the toxic element. In 2006, a plan was created that calls for dredging and environmental monitoring, with a goal of reducing mercury levels in 70 years.

“The Regional Water Quality Control Board hoped it would drift out to sea over the next 120 years,” she said. “Seventy years is still not enough, but it’s something.”

Self said the mountains are only one source from which mercury enters the Bay. Mines and the atmosphere play a part, too.

The number of sources mercury comes from is part of what makes “cleaning up” so complicated, but knowing that natural and manmade organic matter may help could make a big difference in the future, Luengen said.