Great Salt Lake stands out -- for mercury pollution

Ecology » A national survey gives a point of comparison for those studying the body of water.

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An egret prepares to land in the marshes in the Farmington Bay Wildlife Refuge. Studies are under way to show how migratory birds on the lake are being affected by high levels of mercury. (Francisco Kjolseth / The Salt Lake Tribune)

The Great Salt Lake is indeed the hottest of hot spots for mercury pollution.

That's the "take-home message" from the U.S. Geological Survey's most extensive report to date on mercury pollution in the nation's freshwater streams, lakes and wetlands, says a Utah scientist.

The national report, released this week, revealed that mercury pollution is so pervasive that every one of the 291 fish sampled nationwide was contaminated.

The Great Salt Lake was not part of the study, because it is not a freshwater lake. But the new findings provide a useful tool for understanding just how contaminated the Great Salt Lake is, according to David Naftz, a Utah-based geochemist with the USGS.

"It does provide us a good guideline for us to compare ourselves to," he said.

And those comparisons show that the Great Salt Lake mercury is off the charts, or, in Naftz's word "anomalous." Local studies have shown high mercury for some time, but up to now there hasn't been the comprehensive national data for a comparison.

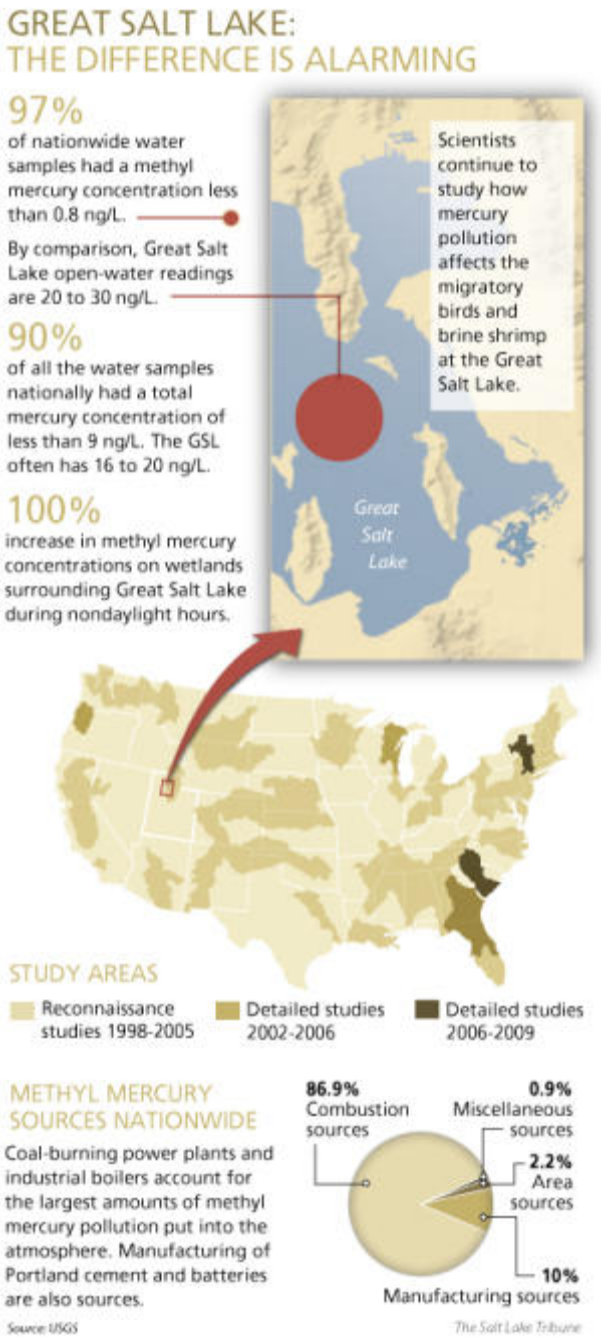
The national studies show that saltiness, low oxygen, sulfur and dissolved organic carbons play a role in the transformation of elemental mercury into its toxic form, methyl mercury -- just as scientists are seeing in the Great Salt Lake.

But compared to the national data, the Utah water body typically has mercury levels double those found in more than 90 percent of the water sampled nationally.

And the open water has up to 38 times more methyl mercury than 97 percent of waters sampled in the survey, while a recent sample taken in the Great Salt Lake wetlands had more than six times as much as in 97 percent of the sampled waters.

The wetlands provide a home -- or at least a rest stop -- for between 9 million and 12 million birds a year.

Methyl mercury is the toxic form of the element that builds up in the food chain. In humans, it causes neurological damage that can range from



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trouble speaking, to effects on I.Q. and behavior.

Studies done by Naftz's team a few years ago showed alarmingly high levels of methyl mercury in the Great Salt Lake.

Since then, the Utah Division of Water Quality, the Utah Division of Wildlife Resources, the U.S. Fish and Wildlife Service, Utah State University, the University of Utah and the U.S. Environmental Protection Agency have joined the geological survey in studying mercury in the lake.

Now Utahns are warned to eat less fish, or none, from 16 lakes and rivers statewide because of mercury contamination. The Great Salt Lake does not contain any fish.

High mercury in Common Goldeneye, Cinnamon Teal and Northern Shoveler on the Great Salt Lake have also prompted advisories for eating those bird species.

"We have to take these concentrations we've seen and put them in a hemispheric perspective," said Naftz.

Studies now under way are expected to help do just that.

Data already collected focuses on mercury in the plant and animal life on the Great Salt Lake, said Jodi Gardberg, of the state water quality division.

"This work has never been done before," she said, noting that initial findings are expected in a few months.

When a final report is in, probably in the spring, the Great Salt Lake mercury situation will come into sharper focus.

One of those eager for the new assessment is Maunsel Pearce, of the Great Salt Lake Alliance. Is mercury drifting into Utah from Nevada's gold mines? Are Common Goldeneye ducks picking up lots of mercury while on the lake, as many suspect? Those are some of the questions not answered yet, Pearce said.

"All we know is that there is a problem out there, but there's more to understanding how to deal with it."

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