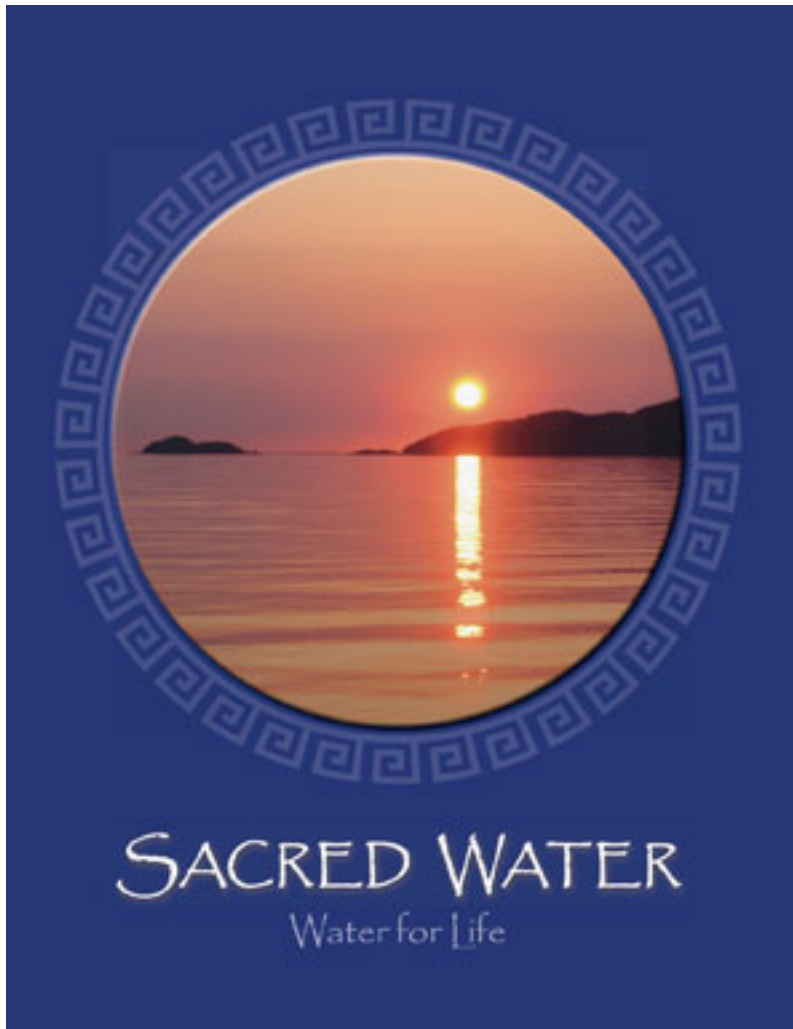


Who Will Save Our Children?

By Lea Foushee

It's predicted that the next battles in the world will be over water, and indeed in some places they have already begun. We tend to think that scarcity of clean water is more of a problem on other continents. Yet, with 10,000 freshwater lakes in the state of Minnesota, the destruction of our water is well under way. Now is a good time to focus on this: The month of May marks both Mother's Day and the state fishing opener—and there's something fishy going on that mothers need to know.—
Editor's note



Times are tough and maybe your food budget is a little thin. Maybe this causes you and your family to eat more fish as a less expensive protein source. If so, you should be aware that eating fish even two or three times a week creates a significant health hazard because virtually all fish, whether caught from Minnesota lakes and rivers or tuna from the store, are contaminated with mercury. Even with very small dosages,

mercury is extremely destructive once it gets inside the body. It is a powerful neurotoxin that destroys brain tissue and the nervous system.

Women of childbearing age, children under 16--and especially unborn fetuses--are most at risk because brain tissue and nervous systems are most susceptible to mercury poisoning during life's early growth and development phases. This is of extreme importance for indigenous peoples in our Great Lakes region that have relied on fish for protein for countless generations. National Institutes of Health in their landmark study in 2005 documented that indigenous, Asian, and Pacific Islands adult women have 17 percent, or a three times higher blood mercury level than other ethnic groups, who were reported at 5.08 percent. Unemployment, the resulting poverty, lack of access to fruits and vegetables, and a diet high in fat, sugar, salt, and carbohydrates are contributing factors. A mother's body burden of mercury can be transferred to her developing fetus as it crosses the placenta; mercury is also excreted in breast milk. The North American Water Office (NAWO) has documented the problem in its pilot nutrition study published in our educational curriculum, "Sacred Water, Water for Life."

Mercury contaminates our environment globally. Elemental mercury is in coal, taconite and metal ores, and oil. When coal is burned, when taconite and other metal ores are smelted, and when oil is refined, the heat involved evaporates the mercury and spews it into the atmosphere. Over time, the mercury settles out of the atmosphere into the oceans, lakes, and rivers, and on the land. But there is so much of it already in the atmosphere that even if all new contributions stopped today, we would not see reductions of mercury in fish tissue for 20 years.

After mercury settles out of the atmosphere it interacts with methanogenic bacteria, bacteria that produce methane. Such bacteria exist in sediments in waters and in soils all over the planet, and the interaction causes methylation of elemental mercury. Methylation makes mercury biologically active and readily available for incorporation into body tissues. Methyl-mercury from soils washes into waters and concentrates in the water column of lakes and oceans where fish become mercury blotters, absorbing methyl-mercury in the water instantaneously as it passes through the gills, and metabolizing it throughout the body. Then bigger fish eat smaller fish, further concentrating the mercury. This is why predator fish that are most popular in human diets, such as bass, walleye, and northern pike, are also the most contaminated. The bigger the fish, the greater the contamination.

Mercury contamination can also come from several other sources, including agricultural products such as pesticides and fungicides that contain mercury compounds, and consumer products such as pharmaceuticals and beauty creams for skin lightening or freckle creams. Processes such as cremation release elemental mercury from dental fillings. Additional contamination comes from garbage incineration of industrial, medicinal, and household wastes containing mercury products.

Once a given amount of methyl mercury enters the body, half of that mercury will still be in the body 50 to 70 days later. Fifty to 70 days after that, one quarter of the original dose will still be in the body. With this understanding of how long it takes for methyl mercury to get metabolized out of the body, it becomes easy to see why eating even a couple of fish meals a week can add up to unacceptable levels of contamination, particularly for children and pregnant women. In fact, walleye throughout the Minnesota region are so contaminated with mercury that the Minnesota Department of Health (MDH) warns women of childbearing age and children under 16 against eating more than one meal a month of walleye from a Minnesota lake that is 20 inches long or smaller. Walleye larger than 20 inches should not be eaten at all. Adult sport fishermen should also be aware of the MDH fish consumption guidelines, but they do not have the same risk factors as people and cultures that rely on fish as a staple in their diet.

The threat from mercury becomes a greater concern when additional sources and kinds of mercury are compounded in the same child. Every fish meal must be counted--store- purchased and lake- or river-caught fish, including fish sticks and tuna fish. Families that eat fish in excess of the MDH recommendations whether because of cultural preference, ceremonial practice, or economic necessity should take special precautions to eliminate any other mercury exposure from consumer products, specifically dental mercury fillings or pharmaceuticals.

Unfortunately, mercury reduction efforts in Minnesota, throughout the country, and around the world are in disarray. Mercury releases to the Minnesota environment were calculated by the Minnesota Pollution Control Agency (MPCA) to be about 2,626 pounds in 2010, and the MPCA projects a release of 1,948 pounds in 2018, assuming that the mercury emitters comply with the ongoing mercury reduction efforts. Over half is from coal-fired power plants. Seven new permits to release mercury in Minnesota have either been approved since 2010, or are still in the process of being approved by the MPCA. These numbers are truly alarming when one considers that even a small fraction of a gram of mercury is sufficient to contaminate a medium-sized lake to the point where its fish are inedible.

Further, mercury reduction technologies and strategies capable of reducing mercury releases down to levels that would begin reducing the threat some 20 years from now either don't exist or are blocked by industrial managers more concerned with profits and preserving their market share. Meanwhile, the federal Center for Disease Control reports that as of March 2012, 1 in 88 children from 14 states in their study is now affected by autism. Environmental factors have long been downplayed as a cause of autism, but improved diagnosis, genetics, and immune disorders combined cannot account for the exponential increase in autism without adding the environmental component to the list of multiple causes. Autism is a neurological disorder; mercury is an extremely toxic neurologic poison that is pervasive in our waters, our air, our fish, in our mouths, and in our consumer products. Make the link!

Educators, students, environmental organizations, and the public interested in learning more are urged to see “Sacred Water: Sacred Life,” a solution strategy and call-to-action plan, available through www.nawo.org

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Resources:

Sacred Water, Sacred Life

Educators, students, environmental organizations and the general public interested in learning more see: “Sacred Water: Water for Life,” a solution strategy and call-to-action plan. Provides facts and a spiritual and cultural context about the threats of mercury and other toxicants that contaminate our water. Offers ways to regain health. Available through www.nawo.org

Mothers of Young Children and Mothers-to-Be

For women who are or want to be pregnant and/or have children under the age of 15: County by county data from the Minnesota Department of Health on mercury and other toxicants in lakes: www.health.state.mn.us/divs/eh/fish/eating.pdf

Leaks In Our Own Backyard

“What’s going on at Prairie Island? There’s been one screw-up at the plant followed quickly by the next for the past many months...At a minimum, we would do well to reflect upon the recent acknowledgement of Japanese Prime Minister Yoshihiko Noda. He said on March 2, 2012, that the government shares the blame for the Fukushima disaster because officials had been blinded by a false belief in the country’s technological infallibility. From our perspective, that is just one of several intertwined false beliefs required for continued commercial nuclear operations.”
—NAWO News, Spring 2012 edition

Special Prairie Island Edition

On the 30th anniversary of NAWO News, a special edition is dedicated to immediate concerns about the Prairie Island nuclear power plant on the Mississippi River, just south of the Twin Cities.

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