

December 12, 2006

Nevada State Health Division  
Alex Haartz, Administrator  
505 East King St.  
Room 201  
Carson City, NV 89701

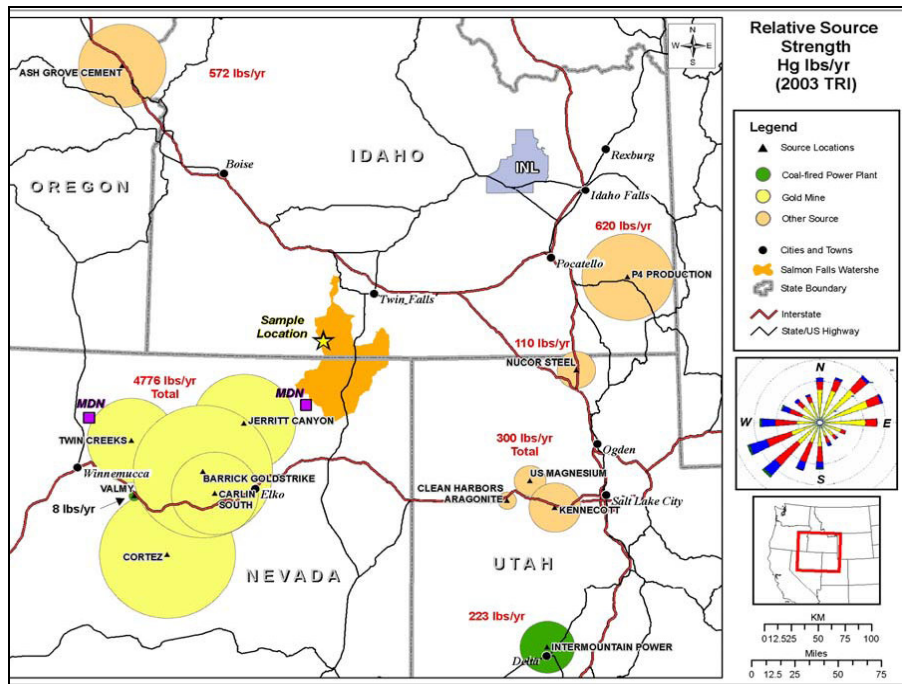
Dear Mr. Haartz;

**Re: Fish Consumption Advisory Investigation Request for Northern Nevada.**

We are writing to request that the Nevada Division of Health investigate the need for a fish consumption advisory for mercury for Wild Horse Reservoir and other fisheries located down-wind from northern Nevada gold mines.

According to the EPA's Toxic Release Inventory (TRI), mercury air emissions in Nevada are substantial, with over 4,605 pounds of mercury released in 2004.<sup>1</sup> Over 95% of Nevada's mercury air emissions are released by gold mines located in northern Nevada.

Scientists have reported high mercury levels in fish and in waterfowl down-wind of northern Nevada's gold mines in southeast Idaho and in Utah.<sup>2</sup> Yet, very little monitoring has been done to determine the extent of mercury contamination in fish and waterfowl in northern Nevada.



*Excerpt from EPA presentation showing mercury emissions from northern Nevada gold mines relative to other mercury emissions sources and high mercury concentrations in fish in Idaho reservoir.*

Waterbodies in northern Nevada, such as Wild Horse Reservoir, are vulnerable to mercury air deposition, and may present a public health risk to the many Nevada citizens, indigenous persons, and tourists who go there to fish. For example, according to the Nevada Division of State Parks, there are roughly 18,000 visitors to Wild Horse Reservoir each year, with 80% coming primarily to fish.

This summer, four fish tissue samples were collected from fishermen at Wild Horse Reservoir. All four samples were yellow perch ranging in size from 6-8 inches. Mercury analysis was conducted by the University of Nevada using a RA-915+ Mercury Analyzer, a portable spectrometer designed for interference free analysis/monitoring of mercury content in various materials, including fish tissue. The EPA reports that this equipment demonstrates appropriate accuracy and precision to be used for mercury monitoring and analysis.<sup>3</sup>

Mercury analyses of the perch revealed high mercury concentrations, ranging from 0.42 to 0.55 ppm:

Fish Samples	Mercury Concentration (ppm)
Wild Horse Perch 1a	.42
Wild Horse Perch 1b	.48
Wild Horse Perch 1c	.48
Wild Horse Perch 1d	.46
Wild Horse Perch 1e	.45
Wild Horse Perch 2a	.46
Wild Horse Perch 2b	.49
Wild Horse Perch 3a	.51
Wild Horse Perch 3b	.55
Wild Horse Perch 4a	.45
Wild Horse Perch 4b	.46
<b>Average</b>	<b>.47</b>

According to guidelines established by the EPA for noncommercial fish, these concentrations pose a health risk to the public, particularly to children and pregnant women.<sup>4</sup> **The EPA guidelines recommend limiting fish consumption for fish with methyl mercury concentrations >0.47-0.94 ppm to just 1 meal (8 oz.) per month for adults.** The EPA also recommends that pregnant women, women planning to become pregnant, infants, and children under 14 should not eat any fish containing mercury.

**Table 4-3. Monthly Fish Consumption Limits for Noncarcinogenic Health Endpoint - Methylmercury**

Risk Based Consumption Limit <sup>a</sup>	Noncancer Health Endpoints <sup>b</sup>
Fish Meals/Month	Fish Tissue Concentrations (ppm, wet weight)
Unrestricted (>16)	0 - 0.029
16	>0.029 - 0.059
12	>0.059 - 0.078
8	>0.078 - 0.12
4	>0.12 - 0.23
3	>0.23 - 0.31
2	>0.31 - 0.47
1	>0.47 - 0.94
0.5	>0.94 - 1.9
None (<0.5)	>1.9

<sup>a</sup> The assumed meal size is 8 oz (0.227 kg). The ranges of chemical concentrations presented are conservative, e.g., the 12-meal-per-month levels represent the concentrations associated with 12 to 15.9 meals.

<sup>b</sup> Chronic, systemic effects.

Notes:

1. Consumption limits are based on an adult body weight of 70 kg and an interim RfD of 1x10<sup>-4</sup> mg/kg-d.
2. None = No consumption recommended.
3. In cases where >16 meals per month are consumed, refer to Equations 3-1 and 3-2, Section 3.2.1.2, for methods to determine safe consumption limits.
4. The detection limit for methylmercury is 1 x 10<sup>-3</sup> mg/kg.
5. Instructions for modifying the variables in this table are found in Section 3.3.
6. Monthly limits are based on the total dose allowable over a 1-month period (based on the RfD). When the monthly limit is consumed in less than 1 month (e.g., in a few large meals), the daily dose may exceed the RfD (see Section 2.3).

Source: "Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories, Volume 2: Risk Assessment and Fish Consumption Limits. Third Edition, November 2000.

The EPA has recently developed a fish tissue criterion of 0.3 ppm, which the agency advises *should not be exceeded* to protect the health of consumers of noncommercial freshwater fish.<sup>5</sup>

The EPA's fish tissue criterion was adopted by the State of Idaho in 2005.<sup>6</sup> According to Idaho's program, if total mercury concentrations in fish tissue exceed 0.24 ppm, the State coordinates a fish tissue advisory with the Idaho Dept. of Health and Welfare and initiates a process to identify and reduce the mercury source.

Given the fairly high concentrations of mercury in these perch samples and the bioconcentration qualities of mercury, we are concerned that the larger, more predatory species, such as bass, may present an even greater health risk. The bioconcentration and bioaccumulation factors of methylmercury in fish are substantial.

For these reasons, we believe that an investigation into the public health risks from fish consumption from reservoirs, lakes and rivers in northern Nevada is warranted. And, we ask that the mercury analysis include a range of fish species, including those that are highest on the food chain.

It is important that Nevada families and visiting tourists have accurate information to determine *which fish* are safe to eat and *how many* fish are safe to eat. We hope that the State can focus the necessary resources on this important public safety issue this year.

Sincerely,

Dan Randolph  
Executive Director,  
Great Basin Mine Watch

Elise Miller  
Executive Director,  
Institute for Children's Environmental  
Health

Bob McCulloch  
Board Member,  
Orsmby Sportsmens Group

Dallas Smales, and  
Larson Bill  
Community Organizers,  
Western Shoshone Defense Project

Jerry Keir  
Executive Director,  
Great Basin Institute

Betty Razor  
Board Member,  
Nevada Nurses Association

Bonnie Gestring  
Western Field Staff,  
Earthworks

Laura Inouye  
Senior Program Officer, U.S. Program  
Oxfam America

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<sup>1</sup>U.S. EPA, Toxic Release Inventory data, 2004. Most recent information available for all facilities.

<sup>2</sup>Information about these Idaho Department of Health and Welfare fish consumption advisories can be found at <http://www.healthandwelfare.idaho.gov/>

<sup>3</sup>The EPA's review of this equipment (EPA/600/R-03/147 dated May 2004) can be downloaded from the Ohio Lumex website.

<sup>4</sup>U.S. EPA, Guidance for Assessing Chemical Contaminant Data For Use in Fish Advisories, Volume 2: Risk Assessment and Fish Consumption Limits. Third Edition. November 2000.

<sup>5</sup><http://www.epa.gov/waterscience/criteria/methylmercury/factsheet.html>

<sup>6</sup>Idaho Dept. of Environmental Quality, Implementation Guidance for the Idaho Mercury Water Quality Criteria, April 2005.