



15 January 2009

Hope Smythe and Michael Perez
Santa Ana Regional Water Quality Control Board
3737 Main St., Suite 500
Riverside, CA 92501-3348

RE: CEQA Scoping Comments on Mercury TMDL for Big Bear Lake

Dear Ms. Smythe and Mr. Perez:

On behalf of the members of the Big Bear Lake TMDL Task Force thank you for providing an opportunity to comment on the Regional Board's plan to prepare a TMDL for mercury in the lake. As you know, I provided oral comments on behalf of the Task Force at the CEQA Scoping Meeting held at the Big Bear Municipal Water District on December 9, 2009. This letter is intended to supplement those comments and to provide source citations for the evidence submitted at the CEQA Scoping Meeting.

General Concerns

Elevated mercury concentrations in the tissue of fish collected from Big Bear Lake is a necessary but not a sufficient condition to conclude that beneficial uses are impaired. EPA's recommended fish tissue criterion for mercury (0.3 mg/kg) is also premised on certain assumptions about the amount of fish consumed over a person's lifetime or by sensitive individuals (such as pregnant women).

There is no evidence in the record to indicate that the assumed levels of consumption are actually occurring among those eating fish caught in Big Bear Lake. Nor is there any reason to believe such consumption would or could occur. Fish tissue concentrations are but one indicator of potential impairment. More detailed analysis may indicate that other factors preclude actual impairment from occurring. It appears the conclusion that Big Bear Lake is impaired by mercury pollution is based on a number of simultaneous worst-case assumptions. These assumptions are unproven and unrealistic.

In order to determine whether mercury is actually impairing beneficial uses in Big Bear Lake, it is necessary to estimate the number of people who consume the levels assumed in EPA's criterion over their lifetime or the number of sensitive individual that are regularly and routinely exposed to the degree necessary to incur a harmful effect. It is important to estimate the number of injuries likely to occur under current conditions and the number of injuries likely to occur if and when the fish tissue standard is attained. We sincerely believe the expected number of adverse effect, given the actual level of exposure occurring, is less than at both current and targeted fish tissue concentrations. Thus, there is no real public health benefit derived from successfully implementing a TMDL for mercury in Big Bear Lake.

This is especially true when one considers that EPA included two very large safety factors when it derived the mercury criterion for fish tissue. First, EPA established the "No Adverse Effect Level" (NAEL) at the point where there was 95% certainty that there would be less than a 5% reduction in subtle learning skills among young children⁴. The studies EPA relied on were unable to detect such small difference; therefore, EPA extrapolated the available data in a manner they have criticized as "unreliable" in other contexts.⁵ In addition, EPA performed the extrapolations after censoring other studies that showed no correlation between the amount of mercury consumed during pregnancy and the subsequent learning behaviors of their children. Such extrapolations might be appropriate if the desire is to error on the side of caution. However, EPA calculated the recommended fish tissue criterion by adding another 10x safety factor to the extrapolated NAEL concentration.⁶

Although the current average mercury concentration for bass living in Big Bear Lake does not meet EPA's recommended criterion, it is well below the No Adverse Effect Level and provides an 8x safety factor. This should be sufficient to protect the hypothetical worst-case exposure condition given the extraordinarily low number of women who are likely to be subsisting on an exclusive diet of Big Bear bass during pregnancy.

⁴ EPA. Water Quality Criterion for Protection of Human Health: Methylmercury. Jan., 2001. EPA-823-R-01-001.

⁵ See, for example, EPA's decision to limit recommended E. coli objectives to the range of measured effects rather than extrapolate beyond the data as described in Draft Implementation Guidance for Ambient Water Quality Criteria for Bacteria; November, 2003

⁶ EPA. Water Quality Criterion for Protection of Human Health: Methylmercury. Jan., 2001. EPA-823-R-01-001.

There are no known sources of mercury in the Big Bear watershed. 100% of the load that eventually finds its way into Big Bear Lake originated from air emissions far outside watershed and are beyond the control of local stakeholders. The Big Bear TMDL Task Force believes it is essential to distinguish the true "sources" of mercury from the "routes" the resulting emissions may take to contaminate Big Bear Lake. According to Dr. James Schauer at the University of Wisconsin, 60% of the airborne mercury in the Los Angeles basin may originate from a single incinerator located in Long Beach. Therefore, the issue should be addressed by the South Coast Air Quality Management District or by the California Air Resources rather than the Regional Water Quality Control Board.

- 3) The MS4's are already required by permit to implement Best Management Practices (BMPs) to reduce sediment erosion into Big Bear Lake to the maximum extent practicable. Therefore, adoption of a TMDL for mercury will add no new authority and impose no new duty on those who operate local flood control facilities. To suggest otherwise is to imply that the MS4's are presently violating their existing permits with respect to BMP implementation. No such finding was made during the recent state and federal audits of the MS4 program in San Bernardino County and the City of Big Bear Lake. The use of erosion control measures and sediment basins is already in widespread use throughout the watershed.

- 4) Mr. Perez suggests that "stocked trout" and "mobile sources" must be evaluated as part of the proposed monitoring program despite concluding that both "source" contribute "negligible" loads of mercury to Big Bear Lake. To suggest that such sources must be monitored implies that they must also be controlled. In light of the U.S. Court of Appeals decision in the Pinto Creek¹⁰ case, the Task Force is concerned that even de minimus loads (such as those from stocking programs, boat and car engines) will not be allowed until a TMDL has been adopted and a non-point source control program is in place to assure eventual attainment of the fish tissue objective for mercury.¹¹ Therefore, the Regional Board staff should consider the unintended consequences associated with restricting fish stocking and power-boating at Big Bear Lake pending completion of the TMDL sometime in future.¹²

¹⁰ Friends of Pinto Creek, et al v. U.S. EPA, et al. 2007 U.S. App. Lexis 23251 (Oct. 4, 2007)

¹¹ Such an outcome is likely given the requirements set forth in 40 CFR 122.4(i)

¹² Mass-based limits may be mandatory; see EPA 65 FR 97, 31698 (May 18, 2000). See, also, SWRCB's Public Scoping Meeting for Proposed Methylmercury Objectives for Inland Surface Waters, Enclosed Bays, and Estuaries in California. December, 2006. pg. 6

- 8) Big Bear Lake is a resort community. The economy of the area depends almost entirely on tourism. The local stakeholders are deeply disappointed that the state declared the lake to be impaired without detailed explanations regarding worst case assumptions, safety factors, the most vulnerable members of the public, or the host of individual strategies that minimize the risk. More important, the stakeholders are concerned that such announcements may engender unnecessary fear in the public and push an already weak economy over the edge.
- 9) Finally, recent scientific studies show that the health benefits associated with eating more fish may offset the increased risk associated with small increases in mercury concentrations. We recommend that the Regional Board staff review the EPA document entitled: Guidance for Assessing Chemical Contamination Data for Use in Fish Advisories. Volume III: Overview of Risk Management. Chapter 3 of that document focuses on the Impacts of Limiting Fish Consumption.

None of the above comments should be construed to suggest that local stakeholders are indifferent to the potential health hazards associated with mercury. Rather, we believe that it is just as important to consider actual consumption levels as it is to analyze actual tissue concentrations. Using one without the other may lead to inappropriate conclusions and policies.

Given the limited financial resources available throughout California, the local stakeholders implore the Regional Board to consider whether the hundreds of thousands of dollars needed to monitor fish tissue levels, develop loading models, and/or install treatment systems for mercury is the first best place to spend money in the name of protecting pregnant women and reducing learning disabilities. We respectfully suggest that all that money would achieve far greater gains were it allocated to school lunch programs, low income health clinics, free infant car carriers, or other direct intervention strategies.

As always, the Big Bear TMDL Task Force stands ready to work closely with the Santa Ana Regional Water Quality Control Board to protect public health and the environment. Thank you for considering these comments.

Respectfully submitted on behalf of the Big Bear Lake TMDL Task Force,



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