Comment Response Document
Regarding the Total Maximum Daily Load of Mercury for Savage River Reservoir
Garrett County, MD

Introduction

The Maryland Department of the Environment (MDE) has conducted a public review of the proposed Total Maximum Daily Load (TMDL) of mercury for Savage River Reservoir. The public comment period was open from October 31, 2002 to November 29, 2002. MDE received one set of written comments.

Below is a list of commentors, their affiliation, the date comments were submitted, and the numbered references to the comments submitted. In the pages that follow, comments are summarized and listed with MDE's response.

List of Commentors

Author	Affiliation	Date	Comment Number
Amy Shellenberger, James R. May, Esq. & James M. Stuhltrager, Esq.	Widener School of Law & Mid Atlantic Environmental Law Center	November 27, 2002	1 and 2

Comments and Responses

1. The commentor stated that the TMDL proposes no margin of safety, because the proposed "built-in" margin of safety (MOS) is not based on conservative assumptions. Specifically, the commentor claims that the choice of a maximum fish tissue threshold of 235 ug/kg is not conservative, which they base on an incorrect claim that "the range for consuming a maximum of four meals per month is 117 μg/kg - 235 μg/kg". The commentor further argues that the fish tissue concentration threshold used in the TMDL analysis (235 ug/kg), which is lower than the criterion adopted by the US Environmental Protection Agency (300 ug/kg), does not technically constitute a margin of safety from the perspective of the TMDL analysis, because the MOS must be established relative to Maryland's criteria and not that of EPA.

Response: In accordance with the TMDL requirements, the Savage River Reservoir TMDL does include a MOS, as described in Section 4.6 of the document, which accounts for uncertainties in a manner that is conservative toward protecting human health and the environment. There are no strict guidelines or methodologies provided by the EPA for selecting an MOS, except to suggest that an MOS may be an explicit value held aside or conservative assumptions built into the analysis.

The MOS presented in the proposed TMDL consists of several conservative assumptions in the analysis designed to be protective of human health. For example, the analysis does not account for losses of mercury through volatilization from the lake, which results in a conservative

assumption of the load estimation. Another conservative assumption was the subtraction of the relative source contribution for saltwater fish used in the formula for the AAWCC. This has the effect of lowering the threshold of the allowable water column concentration.

When computing the bioaccumulation factor (BAF) it is assumed that anglers consume only trophic level four fish, which results in a larger BAF. Trophic level four fish are near the top of the food chain, and thus consistently have the highest observed fish tissue concentrations due to bio-concentration. Adopting the assumption that people eat only trophic level four fish represents a conservative assumption of exposure. This larger BAF is used in the denominator of the formula for computing the allowable ambient water column concentration (AAWCC), which makes the AAWCC tighter (a lower allowable water column concentration).

The use of 235 ug/kg further demonstrates that Maryland is addressing mercury, and computing the TMDL, in a conservative manner. This, in combination with the other conservative assumptions outlined above, should provide EPA and stakeholders the confidence that the analysis is sufficiently protective of human health.

Finally, the commenter appears to have misinterpreted the range fish tissue values (117 μg/kg - 235 μg/kg), as evidenced in their assertion that the range applies to four meals per month. This range applies to risk analyses of seven – four meals per month, in which the analysis for seven meals corresponds to the lower end of the range. As a result of the comment, this relationship will be explained more clearly in the revised TMDL document.

2. The commentor stated that the TMDL fails to include an implementation plan.

Response: The purpose of a TMDL analysis is limited to determining the maximum loading limit that meets existing water quality standards. Neither the Clean Water Act nor current U.S. Environmental Protection Agency regulations direct states to develop a detailed implementation plan as part of the TMDL development and approval process. Although formal implementation planning is currently beyond the scope of the TMDL development process, Maryland is committed to enforcing applicable laws and supporting initiatives necessary to implement this and other TMDLs. Furthermore, the Department is committed to ensuring that the integrated activities of the administrations responsible for air and water are coordinated in response to the challenge of addressing mercury in fish tissue. This commitment extends to working with other State and federal agencies to explore a number of implementation issues (e.g., the use of air shed models to estimate the relationships between sources and receptors).

The Department recognizes that water quality management programs do not have direct control over air programs. Nor does the State of Maryland have jurisdiction to limit emissions of mercury from out-of-state sources. One motivation for developing the mercury TMDLs is to provide information to government officials and the public to guide the on-going debate on the pace of controlling atmospheric sources. EPA has already taken a number of actions to reduce mercury pollution, including regulations for industries that contribute significantly to mercury pollution. These actions, once fully implemented, are expected to reduce nationwide mercury emissions caused by human activties by about 50% from 1990 levels. Examples include:

- Municipal waste combustors. EPA issued final regulations on October 31, 1995. These regulations were expected (by 2000) to reduce mercury emissions from these facilities by about 90%, from 1990 levels;
- Medical waste incinerators. EPA issued emission standards on August 15, 1997. These were expected (by 2002) to reduce mercury emissions from these facilities by about 94%, from 1990 levels.[1]

In addition to controls on mercury air emissions, proper management of mercury containing productions and source reduction are critical components to reducing mercury in the waste stream and to the environment. Maryland has taken several steps toward source reduction:

- About 11 counties in Maryland have instituted household hazardous waste collection programs, where wastes including mercury containing products can be collected for safe management and disposal;
- Effective October 1, 2002, there is a prohibition on the sale and distribution of mercury fever thermometers in Maryland except by prescription (with certain exceptions, such as hospitals);
- Effective October 1, 2003, primary and secondary schools cannot use or purchase elemental or chemical mercury. MDE is required to provide outreach to schools on the management, recycle and disposal of mercury products.[2]
- Effective November 1, 2002, MDE will be implementing EPA's Universal Waste Rule which encourages the collection and recycling of wastes including mercury containing thermostats, lamps, and other products.
- Maryland is part of EPA Region 3's "e-cycling" project, which encourages the collection, refurbishment, and recycling of electronic devices. Four permanent sites in Maryland have been established for collection of computers, tv's, monitors, etc.
- Five sites in Maryland are partners and another MD company is a champion in the Hospitals for a Healthy Environment (H2E) program. Under this program, a Memorandum of Understanding was signed between USEPA and the American Hospital Association, calling for, among other things, virtual elimination of mercury-containing hospital wastes by the year 2005. As of November 1, 2002, the program has 338 partners representing 1021 health care facilities.[3] The program's website, www.h2e-online.org/tools, provides additional tools to these facilities for waste management and pollution prevention.

As additional data and information are collected for the Savage River Reservoir watershed, and as new legal requirements are imposed under the Clean Air Act and other environmental statutes, MDE will continue to evaluate the effectiveness of the regulatory and non-regulatory programs in achieving the water quality targets under this TMDL.

---

[1]Source: www.epa.gov/mercury/information.htm

[2]Source: www.mde.state.md.us/assets/document/Retailers_Manu_web_version.pdf

[3]Source: www.h2e-online.org