

**Summary of the Roundtable Issues Forum
Clifty Inn, Clifty Falls State Park
Madison, KY
June 17, 2015**

Exploring the Possibilities for a Watershed Study of Mercury

The Commission has for some time now been wrestling with the many complex issues surrounding the regulation of mercury in the Ohio River. While ORSANCO has and will be undertaking scientific studies to address some of these questions, there will be remaining unanswered questions that might best be addressed through a holistic, watershed approach. The purpose of this session was to discuss the merits of a watershed study of mercury, as well as to discuss effective means for carrying out such an approach. In addition to the typical format of Commissioners at the roundtable, the Technical Committee was also invited to participate.

Introduction of Topic

Commissioner Bruny led off the discussion with an overview of the mercury issue. Mercury is classified as a bioaccumulative chemical of concern (BCC), a special class of chemicals that accumulate in aquatic organisms and has the potential to biomagnify up the foodchain. The states have developed various standards to regulate mercury levels in ambient waters. Mercury enters the Ohio River from various sources including point and non-point sources, much of which may be entering through tributary inputs. Methylmercury is considered the primary form that accumulates in aquatic organisms; however, the rate of methylation in the mainstem of the Ohio River is believed to be low, but may be occurring to a higher degree in tributaries.

Summary of Initial Input Received

Executive Director Richard Harrison provided a summary of the initial comments received from Commissioners and Technical Committee members on the mercury watershed study concept paper developed by Commissioners Bruny and Frevert. Responses received were varied, ranging from strongly supporting the initiative to uncertainty expressed about the value of such an effort. Specific comments and suggestions included:

- Hold a workshop to bring together experts to explore options and provide answers,
- Must prioritize resources,
- Concern about balanced approach,
- Should not be an alternative to continuing to strive to meet standards, and
- Study would not provide clear results.

What We Know and What We Don't Know

Commissioner Bruny noted there are many questions regarding mercury that are yet to be answered. Lingered questions include:

- Is ORSANCO's mercury standard of 12 ng/l the right number?
- Is the mixing zone ban appropriate for the Ohio River?
- What is the mercury load in the river?
- What are the sources?
- Is mercury as big a problem as the public is led to believe?

Providing answers to these questions is critical to establishing proper regulatory measures to ensure designated uses are appropriately protected. Commissioner Frevert noted that hosting a workshop to bring mercury experts together could lead to some answers.

Jason Heath, ORSANCO Technical Programs Manager, then provided an overview of what is known about mercury in the river. Routine monitoring results indicate average concentrations in the river are below the 12 ng/L standard. There are, however, some segments of the Ohio River with fish consumption advisories in place. ORSANCO's recommendation to the states for the biennial assessment is for the entire length of the Ohio River to be classified as fully supporting.

Discussion

Commissioner Fitzgerald commented that a USGS report on mercury found that one quarter of the streams in the U.S. exceed US EPA's mercury criterion. He cautioned that while we strive for the best science to drive decisions, calling for more data does not mean that previous decisions should be negated. In addition, he also noted that just because there are sources from outside the basin which we can't control, does not mean that we shouldn't address sources that we can manage.

Melanie Davenport noted that Virginia has completed several mercury TMDLs. She emphasized that these studies are not cheap or quick.

Commissioner Bruny, noting that the mixing zone ban was based on work done for the Great Lakes, commented that we need what is appropriate for the Ohio River. Commissioner Frevert further noted that this study needs to focus on the science, not regulation.

Randy Payne, with the Kentucky Division of Water, pointed out that atmospheric deposition is a significant source of mercury to surface waters and needs to be quantified. Erich Emery, from the US Army Corps of Engineers, noted that methylation rates will be another key variable that needs to be characterized. Rob Reash, Chair of the Power Industry Advisory Committee, suggested that a mass balance approach be applied to characterize key source categories. Commissioner Fitzgerald agreed that a mass balance approach would be beneficial to characterize source inputs.

Commissioner Kupke stated there is a need to understand the issues better and we must consider cost, duration, and objectives of any proposed mercury studies. He went on to say there is significant amounts of information already available and it will be important for ORSANCO to tap into these data sources and leverage existing work and contacts.

Bruce Scott pointed out that as the Commission explores possibilities for initiating a comprehensive mercury study, it is important to keep in mind that the Ohio River currently meets the use designation. Commissioner Fitzgerald questioned why ORSANCO does not list the Ohio River as impaired for mercury based on fish consumption advisories and inquired whether commonly consumed fish species were targeted. Commissioner Frevert commented that regardless of impairment status, the general public is concerned about mercury and therefore it is important for the Commission to carefully consider this issue. Commissioner Bruny agreed and stressed the importance of being able to communicate to the public what ORSANCO is doing to address the issue. Judy Petersen, Executive Director of Kentucky Waterways Alliance, added further support to Commissioner Frevert's comments, noting the public knows enough about the issue to be concerned, but there are still many unknowns that need to be studied. Ms. Petersen did express concern that the Commission could get bogged down in a large-scale study all the while granting variances to the Commission's mixing zone policy.

Commissioner Hedman stressed the importance of designing a study to answer a research question, not a regulatory question. She noted there are many different entities working on mercury issues and ORSANCO needs to tap into those opportunities. Commissioner Tomes agreed staff needs to leverage existing data sets and develop partnerships with other agencies working in this area like the USGS. Dick Bartz, of the USGS Ohio Water Science Center, indicated the USGS would welcome a partnership to work with ORSANCO on mercury issues.

Commissioner Conroe expressed concern this mercury study is similar to the PCB and dioxin work the Commission was involved with in the late 1990's. Significant resources were spent on those issues, but not much change came from the effort.

Tim Henry, US EPA Region 5, suggested a stepwise process to address this issue.

Step 1: Define the appropriate water quality criterion

Step 2: Conduct assessment to quantify attainment

Step 3: Characterize sources

Mr. Reash agreed a phased approach would be appropriate and suggested the first step could be hosting a workshop to bring experts together to discuss the issue in detail. Once the critical needs are defined, the scope of the effort can be determined. Shivi Selvaratnam, with the Indiana Department of Environmental Management, suggested a literature search be completed to start the process. Commissioner Kupke agreed that we need to do our due diligence to research the issue before bringing the experts together. Peter Goodmann, Director of the Kentucky Division of Water, recommended an *ad hoc* workgroup be appointed to develop options for a tiered approach.

Commissioner Butler commented that after hearing all of the discussion, he was still uncertain what question we are trying to answer. He questioned, are we simply trying to get a better understanding of mercury in the watershed, is the issue one of public perception and our need to educate the public, or is this a matter of setting a water quality standard? Each would lead the Commission down a different path and defining the proper question now will save money and effort. In response, Commissioner Frevert emphasized the goal for today's roundtable was to determine if there was enough interest among the Commission to initiate a preliminary background review of the mercury issue.

Commissioner Hedman agreed that the focus of the task needs more definition and suggested staff reach out to US EPA, USGS, and other agency experts to determine where the mercury is coming from and where are the research gaps. Commissioner Fitzgerald suggested that the literature search could be summarized as a review of work that has been done to characterize mercury sources, levels, trends, and implications.

Based on the roundtable discussion, Mr. Harrison summarized the next steps as follows:

1. Mr. Harrison will coordinate with the outgoing and incoming Chairs to appoint an *ad hoc* committee to explore mercury study options.
2. Upon receiving confirmation to move forward, staff will initiate the literature review process to identify relevant mercury studies and reach out to agency partners for recommendations for the *ad hoc* committee.
3. Staff will provide a status update at the October Commission meeting.

Commissioner Easterly noted there is still much for us understand about mercury, but the *ad hoc* committee will help to narrow the focus and define the path forward. With that, the meeting was adjourned.