



**August, 2003 Conference Call
(August 20, 2003)**

Representatives from the following organizations participated in the conference call: Abt Associates (Mark Landry); Environmental Resources Trust (Gordon Smith); Jones Day (Brent Fewell); Larry Walker Association (Stephen McCord); Massachusetts Department of Environmental Protection (Marcia Sherman); Michigan Department of Environmental Quality (Rick Hobrla); South Nation Conservation, Canada (Dennis O'Grady); Pace Law School (Ann Powers); University of Maryland (Dennis King); Mark US EPA-National Center for Environmental Economics (Barry Korb); US EPA-National Risk Management Research Laboratory-Sustainable Environments Branch (Hale Thurston and Matt Heverling); US EPA-Office of Water (David Bachelor and Lynda Wynn); US EPA-Region 10 (Claire Schary), West Virginia Department of Environmental Protection-Division of Water (Randy Sovic); and Kieser & Associates (Mark Kieser and Andrew Fang);

Mark Kieser chaired the call.

Reflections on EPA's Water Quality Trading Forum

Lynda Wynn indicated that EPA was pleased with the Forum. Participants found it very informative. From the questions posted by the participants during the Forum, it is clear that participants were interested in using water quality trading as a tool to achieve water quality goals and they wanted to know more.

Mark Kieser commented that the Forum has created the momentum for implementing trading after the issuance of EPA's trading policy in January. Dave Bachelor indicated that "sequels" of the Forum are coming. Water Environment Federation (WEF)'s TMDL 2003 (Chicago, Nov. 16-19) will discuss trading. There will also be several agricultural workshops and conferences related to trading. If interested, you should contact USDA or NRCS offices for more information. Lynda said that EPA may also co-host such Forums in the future. Hale Thurston commented that over the past several years, people's view on trading has changed significantly. Claire Schary said that she was impressed by the number of participants from the agricultural community at the Forum.



Questions from Forum Panel Discussion

Questions raised during the expert panel discussion session on the second day of the Forum are now available for review and on-line discussion at ETN's website (www.envtn.org). The direct link to the questions is (http://www.envtn.org/epa/Forum_feedback.htm). There are 39 questions divided into 7 categories. Mark Kieser introduced the Discussion Board and the way it is set up for accepting and posting discussions. He encouraged call participants to respond to the questions via the Discussion Board (<http://www.envtn.org/cgi-bin/dcForum/dcboard.cgi>). An email message will be sent to all Forum participants notifying them of the availability of the questions and the Discussion Board.

Regarding the effectiveness of the Discussion Board, Lynda Wynn commented that posting all 39 questions at once might overwhelm the reader. A better way to do it may be to focus the discussion on several questions for a specific period of time and then move on to the next set of questions. However, she acknowledged that with questions all available, the reader can get a better overall sense of the scope of the questions/issues related to trading. Dennis O'Grady and Claire Shary agreed on the latter point. Claire raised the possibility that some of these questions may never get answered in a written form. It was also observed that some of the questions can in fact be answered in different ways depending on watersheds and program specifics. Mark concluded the discussion by saying that the Discussion Board will keep the current form for one month. Revisions and archiving will then be done at the end of the month to determine what should be the best form for the Discussion Board.

Case Study Spotlight:

Pilot Feasibility Assessment of Trading to Reduce Mercury (Hg) Loads to the Sacramento River

Steven McCord gave the background and an overview of the project. This feasibility study is only pilot project supported by the EPA dealing with persistent bioaccumulative toxics (PBTs).

The Sacramento Regional Wastewater Treatment Plant (WWTP) serves about 1 million people (and growing) with a capacity of 150 MGD. The total mercury (Hg) loading from the treatment facility is about 5 lbs/yr. The plant is located about 20 miles upstream of the outlet of the Sacramento River watershed, which drains one quarter to one third of California. The plant is also about 20 miles upstream the Sacramento-San Joaquin River Delta which drains into the San Francisco Bay. All these water bodies are listed as impaired for Hg in fish tissues.

The Hg problem dates back to the mid-1800s during the Gold Rush. There were 50 mercury mines and ~3000 gold mines on the west side the watershed. Mercury was needed to extract gold. Drainage from these mines now goes through a flood way that parallels the Sacramento River. It was estimated that about 10 million lbs of Hg used during the Gold Rush were left in the Sierras. This Hg is still being washed into the San Francisco Bay. Sources of Hg in the watershed include soil erosion, particularly in the mine areas, mineral springs, atmospheric deposit, and urban runoff. The annual Hg loading from the entire watershed is about 500 lbs/yr. Therefore, Hg from the treatment plant accounts for only 1% of the total load. Concentrations in catfish were found ranging mostly from 0.2 to 0.8 ppm (EPA fish tissue standard is 0.3 ppm).

The plant is expected to increase its flow due to growth. As a result, Hg load will also increase. This project is intended to develop a proposal for reducing mercury discharges to the watershed from sources that are either not regulated or cannot be readily controlled to offset future WWTP anticipated increases.

A task force has been formed including experts and representatives from USGS, universities, the mining industry, state and federal officials. However, environmental advocacy groups are generally absent. Meetings and workshops have been conducted to advance the project. The most recent one was yesterday (08/19/03). A variety of issues are being discussed, including understanding how Hg is transported from sources to fish. For example, methylmercury is what bioaccumulates in fish tissues. Mercury methylation is necessary for this to happen. If methylation can be disrupted, it may be possible to reduce the impact of mercury bioaccumulation. In terms of trading, issues being explored include trading ratios, point of compliance, credit banking, criteria for selecting projects, legal liability, and measures of success. This latter issue deals with the fact that only 1% of the total watershed load is from the treatment plant. It is not possible to separate out the effects of reducing loading from the plant. A feasibility study report is expected next summer.

Outreach and research programs are also being considered. As a load reduction program may take years to implement, outreach education can be carried immediately. Advocating fish consumption advisories is one way to have immediate effect on protecting human health. The task force is also forming an internal response to the statement issued by four environmental groups criticizing EPA's trading policy. The task force is considering openly responding to the statement. By doing so, the task force hopes to create dialogue with environmental advocacy groups about the project.

The following are questions, comments, and answers from the ensuing discussion on the Sacramento Regional Country Sanitation District's mercury trading feasibility study project.

Q (Lynda Wynn): Because this is the only PBT trading pilot funded by EPA, outreach programs should not be perceived as the main outcome of the project. We need to have real load reductions.

A (Steven McCord): Outreach is considered because it can have immediate public health benefits and reductions will take a more lengthy period of time. It is recognized that outreach is just one facet of the effort.

Q (Marcia Sherman): Has a TMDL been developed for the watershed?

A (Steven McCord): There are several TMDLs being developed for the watershed. However, none have been finalized. The San Francisco Bay Hg TMDL is currently under EPA review. This TMDL has an allocation for the Sacramento Regional Country Sanitation District. The Sacramento-San Joaquin River Delta is also developing a TMDL. No further information is available on the progress of this TMDL. One of the subwatersheds (Cash Creek) in the Sacramento River watershed will have a TMDL report coming out next month.

Q (Barry Korb and Dave Bachelor): What was the reason behind this offset project? Is there a loading cap for the treatment plant?

A (Steven McCord): Everybody knows that a TMDL will come, likely before the next permit. Although there is no publicly available information on the TMDL allocation, the project is attempting to do something now before the TMDL is issued. The current permit does not have mitigation requirements because the plant discharges < 5 lbs/yr.

Q (Mark Kieser): What is the cost for an in-plant Hg treatment? What about cleaning a mine site?

A (Steven McCord): Not considering negative environmental effects (e.g., high energy consumption) reverse osmosis could cost between \$100-200 million, which can reduce the load from 5 to 2.5 lbs/yr. As a comparison, the cost for mine reclamation projects is roughly around \$1 million per site, which would give a ~200 lbs/yr load reduction (differences between site reduction and 500 lb/yr mass load to the San Francisco Bay are related to transport, which can be addressed by trading ratios). Barry Korb noted that cost savings are the major benefit of trading.

Q (Mark Kieser): Has the district thought about incorporating trading into the future TMDL implementation plan?

A (Steven McCord): Yes. If the project works, it can establish a model for trading for the state.

Q (Marcia Sherman): Are these mines still owned by industry?

A (Steven McCord): Some of the mines are in public land and some are in private land. Public land is easier to work with but the liability of working on private lands is an issue.

Mark Kieser observed that West Virginia has parallel issues with acid mine drainage problems. He asked Randy Sovic to provide an update on where West Virginia is in terms of using trading to address this problem. Randy indicated that West Virginia has had three work groups working on three aspects of a potential trading program in the state: technology, institutional and policy. These groups are composed of representatives from various agencies and groups. By the end of the year (November or December), each of the groups will make their recommendation on whether West Virginia should embark on a trading program. West Virginia has a pilot considering a trading project on the Cheat River where a power plant may use capital investments needed for thermal treatment to instead fund acid mine drainage remediation. Dave Bachelor also made note that ORSANCO (point source consortium on the Ohio River) is exploring nutrient trading opportunities with nonpoint sources in the Ohio River Valley where multiple credits (phosphorus, nitrogen, and green house gases) can be created to address local nutrient problems, hypoxia in the Gulf of Mexico, and global warming.

Dave Bachelor commented that USDA-NRCS is supportive of the multiple credits concept and may in the future use some of the Farm Bill Conservation Innovation Grants to fund related efforts. However, all this is still in the conceptualization stage.

Next Call

Wednesday, September 24, 2003, 10:30 EDT.