Meeting Summary

Water & Ecosystems Summer Area Council: Ohio River Basin Water Quality Trading Project Session June 18th, 2009 • Holden Massachusetts, Alden Laboratories

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Summary of Presentations

PDFs of the presentations summarized below are available to funders of the EPRI Water & Ecosystems Area Programs and funders of the EPRI Ohio River Basin Trading Program for Water Quality & Greenhouse Gases Supplemental Project. For more information on the supplemental project, and how to join, please visit **www.epri.com/ohiorivertrading**

- **Project Summary & Updates –**

  Jessica Fox, Senior Scientist, EPRI Environment Sector

  - Recently the PBS news program Frontline ran an episode, "Poisoned Waters," about the perils of America's polluted waterways. This article is demonstrative of recent media attention being paid to issues of water quality. (http://www.pbs.org/wgbh/pages/frontline/poisonedwaters/) Concerns about the Gulf of Mexico Hypoxic Zone, a dead zone in the Gulf of Mexico related to drainage from the Mississippi River, is garnering local and national attention. While it is uncertain the degree to which water quality trading in the Ohio River Basin will effect Gulf of Mexico Hypoxia, it is emerging as an important tool to address issues of water quality along with development of new technologies, and implementations of best management practices.
  - EPRI wants to establish a trading program where power companies will participate as buyers and/or sellers of nitrogen credits, allowing them to manage their nitrogen discharge with water quality trading. It is expected that the program will act as a model for other trading programs in the US. EPRI advisors chose the Ohio River Basin for the water quality trading pilot program in 2007 after a feasibility study identified the region as the best candidate for success. The Ohio River Basin Water Quality Trading Program will be the largest program of this type in the world.
  - Point to Point, Non-Point to Point, and Non-Point to Non-Point are the three types of trading being considered. Of these, it is anticipated that the bulk of trading will be between agriculture sources (non-point) who have implemented best management practices and Utilities (point sources). The USEPA has expressed interest in Point to Point source trading.
  - It is unlikely that water quality trading will be allowed to meet end of pipe Technology Based Effluent Limitations (TBELs). Use of water quality trading may be used to meet end of pipe Water Quality-Based Effluent Limits (WQBELs), in stream Nutrient Standards, and as allowed by state laws, Antidegradation regulations.
  - The improvement of ecological outcomes using the best available science is one of the foundations of the trading program. There are a large number of stakeholders in the program area with often conflicting interests, and compromises are expected. The project will attempt to understand how society, economics, and business impact ecology. There are several opportunities for Ecosystems Services projects to be developed in line with the trading program.
  - The project is investigating credit stacking of greenhouse gas offsets by incorporating work done by Adam Diamant in EPRI's Global Climate program.

- The Watershed Analysis Risk Management Framework (WARMF) will be used to model the various watersheds in the program area. Local water quality is the goal, and the model will be useful in determining the parameters needed to achieve desired in stream quality.
- Jessica recently participated in a high level project briefing at the US EPA Office of Water to discuss collaboration between EPRI and the Ohio River Valley Water Sanitation Commission (ORSANCO) to develop a scientifically credible model of the Ohio River Basin upon which ORSANCO can base nutrient criteria. Collaboration is advantageous for ORSANCO because they do not currently have the tools to they need to propose the criteria, and for EPRI because it provides further support for generating a watershed model that can be used to inform the development of the water quality trading project. Water quality trading is in ORSANCO's top 4 priorities.
- The project plans to continue efforts to market and educate to state, local, and utility players as well as the public. Public webcasts held earlier in 2009 were the best attended in EPRI history. The project also plans to continue to pursue funding from USEPA & USDA grants, funding of the EPRI supplemental project, and additional foundation funding. Approximately 6 million dollars will be required for full project implementation.

➢ WARMF Watershed Modeling for the Ohio River Basin –

Arturo Keller, Ph.D. Professor of Biogeochemistry,

Bren School of Environmental Science & Management, UCSB

Dr. Keller summarized how some of the previous Watershed Analysis Risk Management Framework (WARMF) models upon which he worked were developed and applied. He then went into more detail describing the process for development of the Ohio River Basin WARMF model, including input information, model parameters, and timelines for collecting and processing data. He demonstrated some of the information available for several watersheds that he has already modeled. His key findings were that the WARMF model can be used to:

- Identify Areas for Potential Trading
- Understand temporal pattern of WQ exceedances
- Determine extent of local/regional trading areas
- Assess magnitude of loads in a given trading area
- Evaluate "trading ratios"

➢ AEP Perspectives on Ohio River Basin Trading Project –

Tim Lohner, Principal Environmental Specialist, American Electric Power

Mr. Lohner shared an American Electric Power perspective on the value of the EPRI Water Quality Trading Project. He outlined economic, regulatory, and environmental reasons for the need to develop a water quality trading program, and highlighted the benefits of having a seat at the table for program development. He also identified several concerns and challenges to developing the program.

➢ Challenges to the Ohio River Basin Trading Program

Mark Keiser, Senior Scientist, Kieser & Associates

Mr. Keiser outlined issues arising from the project briefing held at the D.C. office on April 29th, 2009, summarized the implications of the Pinto Creek/Carlota Copper Ninth Circuit decision, and highlighted some of the value adds, hurdles, and strategic positioning for the project going forward.

Main Points Discussed with Group

- The possibility of using water quality trading to meet Technology Based Effluent Limitations (TBELs) was of great interest, and it was suggested that language regarding TBELs be included in permits. The next step will be to bring Hunton & Williams into this discussion.
- Many questions about liability and contractual obligations with regards to trading. These questions will need to be worked out with the various stakeholders and then included in the trading rules.
- The trading timeframe and long term strategy were discussed. It is expected that early trades could occur in as little as 12-18 months, and full implementation within 5 years. The program is being developed to be able to adapt to potential future regulation (ex. Effluent Guidelines). EPRI will not be the long term manager of the trading program.
- Discussion of what will motivate agriculture to participate in a water quality trading program, potential regulatory drivers, and cost benefits. The question was raised if utilities could create credits by purchasing or leasing agriculture land, or "buffer zones" along waterways. Could they buy farmland and convert the land into something more ecologically friendly?
- The danger of overselling the environmental benefits of a water quality trading program. Environmental benefits should be balanced with the fact that trading will help to achieve cost effective compliance.

Project Contact

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EPRI intends to support a collaborative process for the development of this project. To this end, we accept feedback, questions, and suggestions on a rolling basis. Please feel free to send us input via e-mail.