Dear Colleagues and Friends:

MARAMA is pleased to report on our activities in the year ending September 30, 2003. MARAMA focused on particulate matter, regional air quality forecasting and analysis, emissions inventory development, and training.

Particles in the air demanded increased attention in fiscal year 2003. The year began with the July 2002 Canadian fire event, dispersing smoke through large parts of the region. Throughout the year, states and local agencies collected data and prepared to designate nonattainment areas for PM$_{2.5}$. As the year drew to a close, MARAMA helped members successfully prepare to meet EPA’s challenge to begin year-round air quality forecasting in October 2003.

Regional data analysis is important, particularly because most of our air quality problems are not just local. MARAMA’s PM$_{2.5}$ forecasting project is a great example of how regional collaboration can stretch resources. Regional coordination among forecasters avoids duplication of effort, allows states and local agencies to develop and utilize the best available forecasting methods, and provides a technically consistent approach. Analyzing data in collaboration with our partners in the New England and Midwestern regions is also helping us understand the sources of regional haze.

Emissions inventories are often taken for granted, but precursors of PM$_{2.5}$ and regional haze haven’t received as much consideration as precursors of ozone, and large uncertainties in parts of the PM$_{2.5}$ inventory demand attention. In order to ensure accurate analysis and appropriate control, MARAMA helped build the foundation for PM$_{2.5}$ and regional haze State Implementation Plans (SIP). We managed a record amount of contract dollars to improve emissions inventories. The quality mantra of constant improvement is both fitting and critical for emissions inventories. Our members helped channel our resources where they will best improve the quality of the inventory.

Training remains an important activity for MARAMA. The MARAMA Training Committee and Executive Board once again helped us set priorities so that available training funds provided a broad array of courses and workshops for air quality permit writers and inspectors. This year we served 775 participants at various MARAMA and Mid-Atlantic/Northeast Visibility Union (MANE-VU) meetings and courses and through MARAMA support at other events.

Thanks from all of us on the MARAMA staff to those who have helped make our programs so successful—our Board members, members of technical oversight committees for our contracts, the Training Committee, EPA staff, and academicians.

Sincerely

Susan S.G. Wierman

Susan S.G. Wierman
Getting the Job Done

Major Work Products

Much of MARAMA’s work in 2003 assisted members with emissions inventory improvement and air quality data analysis. Several projects were conducted for MANE-VU. For more information about the projects and activities listed below, please see www.marama.org.

Combined Aerosol Trajectory Tool (CATT) -- Prototype Tool
The CATT is a relational database and query system containing measured aerosol and receptor model data for 16 air quality monitoring sites which is paired with gridded trajectory data. Pairing wind trajectories with aerosol data helps identify the location and sources of air pollutants that impair visibility.

We were pleased to finish the Phase I tool working with the Washington University, St. Louis, and look forward to continued work on Phase II. The Phase II tool will be expanded to use data from all sites nationally and is also being integrated into VIEWS.

Classification and Regressions Tree (CART) Forecasting Tool - Released Prototype
To support PM$_{2.5}$ forecasting efforts in the Region, MARAMA coordinated the development of new PM$_{2.5}$ forecasting tools. The cornerstone of this effort was the development of nine prototype Classification and Regression Tree (CART) tools. The tools help forecasters meet the demands of the new year-round forecasting program which was launched October 1, 2003.

Currently, the forecasting tools are being evaluated. Forecasters use the tools to prepare daily PM forecasts. On the following day, forecast results are compared with observed PM$_{2.5}$ concentrations. In addition, MARAMA’s contractor, SAI, is using historical data from June, July, and August 2003 to evaluate tool performance.

By August 2004, project contractor, SAI, will provide MARAMA with improved tools and a final report including “conceptual models” describing the features of PM$_{2.5}$ episodes in each forecast area.

National Emissions Inventory (NEI) Analysis
The 1999 NEI is a massive dataset. To help members visualize the inventory and identify gaps or errors in the data, MARAMA produced a set of maps and charts summarizing the data. These were posted on our website for easy access.
Evaluating Petroleum Industry VOC Emissions in Delaware, New Jersey and Southeastern Pennsylvania

The air quality agencies for Delaware, New Jersey, Pennsylvania, and Philadelphia asked MARAMA to evaluate refinery and other petroleum industry VOC emissions, and to lay the groundwork for developing an improved regional inventory. The project focused on facilities in Delaware, New Jersey, and Southeastern Pennsylvania, and was conducted for MARAMA by MACTEC Federal Programs, Inc. of Herndon, Virginia. The work product from this effort was the report Evaluating Petroleum Industry VOC Emissions in Delaware, New Jersey and Southeastern Pennsylvania.

Many refineries in the region are implementing measures to reduce VOC emissions, including improved leak detection and repair, reduced flaring of gases, reduced VOC discharge to wastewater, and better air pollution control of wastewater treatment processes. These ongoing improvements require continuous evaluation and revision of emissions inventory methods. Since refineries are major sources of VOCs and related hazardous air pollutants, it is important to determine emissions as accurately as possible.

Residential Wood Combustion
Survey and Emissions Inventory Initiative

This project addressed residential wood combustion from home fireplaces, woodstoves and other wood burning sources from rural, suburban, and urban residences. During Phase II (completed January 2003) the contractor, E.H. Pechan and Associates, tested a survey instrument, designed the survey tool and provided information to assist in the survey process. Phase III (started February 2003) focused on implementing the survey and developing an improved emissions inventory for residential wood combustion.

Coordination Project -- Report and Website

The purpose of this project was to improve coordination among state, local, and regional agencies that are planning or conducting surveys to improve residential wood combustion emissions inventories, and to provide an information resource for those agencies.

Working with project contractor Omni, Inc., MARAMA chaired a national workgroup to coordinate developing better data about residential wood combustion. The forum discussed the survey methodologies and results of various residential wood combustion studies. The information was then compiled on a website for use by state and local agencies. In addition, a report summarizing the key steps and challenges involved in developing a residential wood combustion survey was produced. The website can be accessed through www.marama.org.
Open Burning in Residential Areas -- Emissions Inventory Report

Completed in January 2003, the report produced by MARAMA contractor, E.H. Pechan and Associates, estimated emissions for open burning source categories including residential municipal solid waste, residential leaf and brush, as well as municipal yard waste. The report underwent a major update late in 2003.

Mobile Sources Emissions Inventory Workplan

MARAMA worked with contractor E.H. Pechan and Associates to develop a plan and schedule for producing an updated 2002 inventory of mobile source emissions. The inventory will be used by air quality modelers studying regional haze, ground-level ozone, and fine particle matter. The contractor started the development of the on-road and off-road inventory late in 2003. Final delivery is expected in time for use in MANE-VU’s regional haze SIP modeling.

Area and Mobile Source Category Calculation Sheets

To support member states in their efforts to develop accurate emissions estimates, MARAMA staff developed a series of “calculation sheets.” This series documents calculation methods for emissions from several mobile and area source categories. The following calculation sheets were completed in 2003:

- Agricultural Production-Crops-Tilling (PM_{10}, PM_{2.5})
- Agricultural Production-Crops-Fertilizer Application (NH_{3})
- Fugitive Dust-Paved Roads (PM_{10}, PM_{2.5})
- Fugitive Dust-Unpaved Roads (PM_{10}, PM_{2.5})
- Open Burning-Residential Household and Yard Waste (PM_{10}, PM_{2.5})
- Open Burning-Land Cleaning Debris (PM_{2.5})
- Aircraft (PM_{10}, PM_{2.5}, NH_{3}, SO_{2})
- Commercial Marine Vessels (PM_{10}, PM_{2.5}, NH_{3}, SO_{2})

Stakeholder Outreach Strategy and Contact List for MANE-VU

As MANE-VU technical work moves forward, the importance of active and educated stakeholders increases. In preparation for the upcoming public participation process, MARAMA developed a Stakeholder Outreach Strategy for MANE-VU. This guide aims to engage a wide range of stakeholders and ensure their participation in MANE-VU activities.

To expand upon the existing university, industry, and interest group involvement, MARAMA developed a comprehensive database of potential stakeholders. This was compiled from existing databases of various MANE-VU members and was reviewed by the states and tribes. It will be used as a means to notify interested stakeholders about opportunities to comment, events, meetings, etc. In addition it will serve as a one-stop-shop for MANE-VU as it works to ensure an active and inclusive stakeholder participation process.
Making a Statement
Press and Communications

Increased visibility for the organization is a means to further the work and represent the interests of the Region. We were pleased to expand our communications and press outreach efforts in 2003.

MARAMA received press coverage in STAPPA/ALAPCO’s Weekly Update and Inside EPA on the release of our report Evaluating Petroleum Industry VOC Emissions in Delaware, New Jersey and Southeastern Pennsylvania. We also authored a Letter to the Editor in the Baltimore Sun regarding the results of the Southern Appalachian Mountain Initiative.

This year we were proud to have our Executive Director serve on the Editorial Advisory Board for the Air & Waste Management Association’s (AWMA) EM Magazine. In this role Ms. Wierman secured articles for the September 2003 edition which focused on SIP issues. In addition to soliciting articles from Tom Helms (EPA) and Barry R. Wallerstein and Patricia Whiting (South Coast Air Quality Management District), she also wrote a featured article entitled “Will the 8-Hour Ozone Standard Finally Get Off the Ground?” Ms. Wierman also represented the Region’s interests as a member of the AWMA Board and NARSTO’s Executive Steering Committee.

In addition, MARAMA sent a letter to EPA urging them to complete and propose guidance for development of 8-hr ozone SIPs. Finally, we developed and produced our 2002 Annual Report and a brochure describing who we are and what we do, entitled Collaboration for Better Air Quality in the Mid-Atlantic.

Staying Connected to our Members
On the Wire

As technology moves forward we continue to try to use the most up-to-date means available to disseminate information. During 2003 our ozone reporting and website were the focus of such efforts.

Reported Ozone Maximum Daily Concentration

As we have done since 1995, MARAMA issued weekly ozone reports during the summer of 2003. Reports were posted each Wednesday for the previous week and were based on preliminary data. Our reports cover daily maximum values exceeding 8-hour and 1-hour ozone standards. This information is available through a searchable database. Users can run queries by state, date, EPA planning area or by AIRS number. In addition, we also produced the 2002 Summary Report.

Maintained an up-to-date website

A website is only as useful as the information it contains. That is why we continued to update our website with our most recent workproducts, RFP notices, and other pertinent air quality related information. An important and popular member feature continues to be on-line registration for MARAMA workshops and events via our website. Preliminary plans to revamp the look and design of the website are in the works, and we will continue to present an updated website with timely content.
Allocating Resources
2003 MARAMA Financials

MARAMA is funded by grants from the EPA under the direction of our member agencies. This year MARAMA’s grant income was just above $1.1 million. This is up substantially from about $803,000 in 2002 and well over double that of 2001. As in 2002, the main reason for our fiscal growth was the expansion in our visibility work for MANE-VU. In 2003 MARAMA had seven full-time staff.

Keeping the Region Connected
2003 MARAMA Directory

The Annual MARAMA Directory is a valued reference for our members, helping them reach out to each other. In 2003 we printed 200 copies, and as in past years, nearly all the copies were gone within a few months.

We put a good deal of time and effort into making this directory timely and accurate. Please let us know whenever you need to update your information.

Recognizing Members
2003 Outstanding Service Award

Brenda Eggleston, Virginia
Bridget Craig, Pennsylvania
James Yoder, Pennsylvania
Susan Hoyle, Pennsylvania
Christopher Wheeling, Maryland

The MARAMA Board recognized this project team for their outstanding assistance with developing the new Rutgers course on Surface Coating Sampling, Transport, and VOC Content Calculations. The course was developed at the request of member agencies to help inspectors learn and follow the proper procedures for sampling liquids containing volatile organic compounds (VOCs). Rutgers University will be offering the course nationally as part of its air pollution training program. Thanks to the project team for their advice and oversight of this project!
What do the Numbers Say?
Training, Support and Regional Coordination

Events
The foundation of MARAMA's work continues to be organizing training events, fostering regional coordination through meetings, and providing support for members to attend regional and national conferences. This year we were pleased to send 529 MARAMA members to a total of 42 events. While sheer numbers are impressive, we also feel the need to ensure that each of our members hosts events, and also has staff sent to meetings. During 2003 MARAMA held events in 8 of 10 member jurisdictions and had participants from all member jurisdictions.

MARAMA also developed and piloted a new Volatile Organic Compounds (VOC) Coating Sampling Course. The course gives participants a basic knowledge of EPA Reference Methods 24 and 24a. It provides both hands-on experience with sampling surface coatings, as well as procedures to follow to preserve the integrity of samples throughout the sampling and transporting processes. Instructors provide guidance on how to use VOC content calculations to determine compliance. The pilot course (July 2003) was well received, and the course was made available for use within the MARAMA Region and in other areas.

Training Resource Guide

Summary by Event Type and Number of Participants

Training: 263 attendees at 11 offerings
These are courses or issue specific workshops that provide specific technical and policy training.

Regional Coordination: 173 attendees at 13 events
These events foster interaction, both technical and policy among MARAMA members and also between our members and professionals across the United States.

National/Regional: 93 attendees at 18 events
MARAMA support for these events ranges from sending member agency staff, to providing logistical and planning support. We also stay abreast of as many meetings outside the region as possible so we can notify our members of events that may be of interest to them, and also to avoid scheduling conflicts when possible.

Since training events are held across the United States, and the opportunities to hold and attend courses can sometimes seem overwhelming, MARAMA developed a compact disc that acts as a portal for accessing national training information. Users with an Internet connection can use the CD from year to year to access the most updated training information.

We thank all those who allowed us to include their information on the CD and made it possible to develop such a useful tool.
What is MARAMA?
The Mid-Atlantic Regional Air Management Association is a voluntary, non-profit association of ten state and local air pollution control agencies.

MARAMA provides cost-effective approaches to regional collaboration by pooling resources to develop and analyze data, share ideas, and train staff to implement common requirements.

Members
The following State and Local governments are MARAMA members: Delaware, the District of Columbia, Maryland, New Jersey, North Carolina, Pennsylvania, Virginia, West Virginia, Philadelphia, and Allegheny County, Pennsylvania. Members of MARAMA’s Board of Directors are listed below.

Mission
MARAMA’s mission is to strengthen the skills and capabilities of member agencies and help them work together to prevent and reduce air pollution impacts in the Mid-Atlantic region.

Executive Board 2003
John M. Daniel, Jr., Virginia, Chair
John Benedict, West Virginia, Vice Chair
Roger Westman, Allegheny County, Treasurer
Ali Mirzakhali, Delaware
Donald E. Wambsgans III, District of Columbia
Anne Marie DeBiase, Maryland
Bill O’Sullivan, New Jersey
Keith Overcash, North Carolina
Joyce Epps, Pennsylvania
Morris Fine, Philadelphia

MARAMA Staff 2003
Susan S.G. Wieman, Executive Director
Serpil Kayin, Ph.D., Senior Environmental Scientist
Bill Gillespie, Senior Environmental Scientist
Susan Stephenson, Air Quality Planner/Public Outreach Coordinator
Megan Schuster, Air Quality Specialist
Alice Lutrey, Training Coordinator
Mia Lueth, Assistant Meeting Manager
Kathryn Seifer, Executive Assistant

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