



2007 Annual Report

Improving Coordinated Air Quality Management Since 1990

Emissions Inventory Supports State Plans

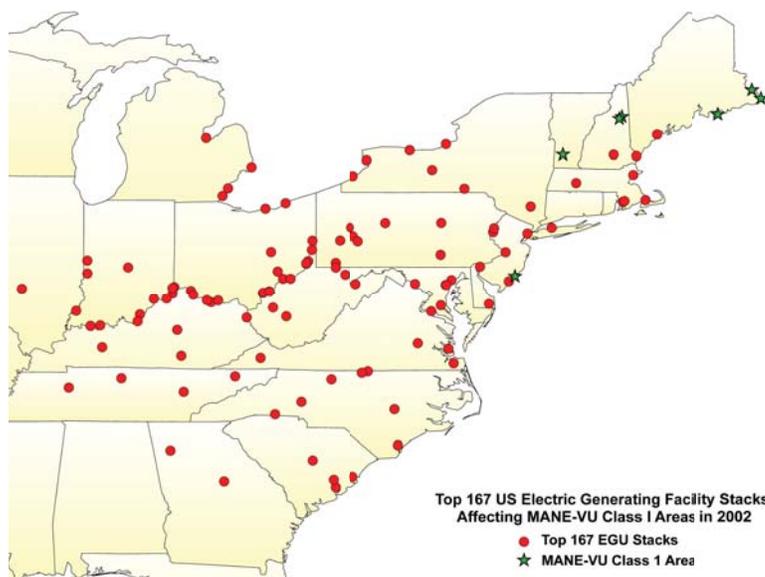
Regional modeling is critical to state planning, and regional inventories are needed to support modeling work. As the emissions inventory coordinator for the Mid-Atlantic/Northeast Visibility Union (MANE-VU), MARAMA had a busy year.

Documentation of Version 3 of the 2002 emissions inventory was completed for MARAMA by E.H. Pechan in November 2006. In February 2007, MACTEC completed documentation of emissions inventories for 2009, 2012, and 2018 non-road mobile sources and for stationary sources except electric generating units. A third MARAMA contract, with Alpine Geophysics, helped fill the gaps between other contracts, providing input files needed by modelers.

Using information provided by contractors, MARAMA staff prepared graphical summaries of emissions inventory data to help Air Directors visualize the major sources of emissions affecting MANE-VU and how the emissions were expected to change in the future.

Forecasting Emissions from EGUs

Emissions from Electric Generating Units (EGUs) have a greater impact on visibility in the MANE-VU region than any other category of sources. MARAMA worked with MANE-VU staff and committees to increase the understanding of this important source category. MARAMA contracted with ICF to estimate future emissions from EGUs in the context of the



national emissions cap and trade program. ICF prepared a report that compared the impact of the Clean Air Interstate Rule, the current program, with costs and emissions under a more stringent cap.

In addition, MARAMA worked with the Vermont Air Pollution Control Division and the Northeast States for Coordinated Air Use Management (NESCAUM) to create a list of the top 167 EGU stacks affecting MANE-VU Class I areas in 2002. Both with the assistance of MACTEC and working directly with the MANE-VU states, MARAMA compiled information about emission controls in place or underway that would reduce emissions from these stacks by 2018.

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Training the Region

MACT Course is a Success

MARAMA's HON, MON and Polymers and Resins course received strong praise and was recommended by participants at the Fall 2007 offering. "This subject matter is tough to learn on your own," declared one attendee.

This updated three-day course reviews three key federal rules: the Hazardous Organic NESHAPS (HON), the Miscellaneous Organic NESHAPS (MON), and the Polymers and Resins MACT. The course covers the following topics for each: Applicability, Compliance Dates, General Requirements, Emission Standards, Initial Compliance Demonstration, and Monitoring, Reporting and Record keeping. The final day of the class includes case studies, covers practical aspects of inspections, and explains available implementation tools.

Twenty-five participants from the MARAMA region and elsewhere attended the Fall 2007 offering.

Thanks for a job well-done to instructors Joann Held (an outside trainer who formerly worked for the State of New Jersey), Paul Foster of Delaware's Air Quality Management Section, Diane McNally of EPA Region III, and Julie McDill of MARAMA. Thanks also to Robert Keatley of West Virginia and Bruce Seltzer of Delaware for informative case studies and Jim Snead of Delaware for his technical assistance.

MARAMA Welcomes New Trainer

Taking advantage of new skills brought to the MARAMA staff by Julie McDill, MARAMA has begun to participate in teaching courses. Ms. McDill managed the team that updated the HON, MON and Polymers and Resins course and also taught the section on the MON. Ms. McDill is a registered Professional Engineer as well as a certified teacher, and her experience gives her unique insights as a trainer. She joined MARAMA in January 2007.



Delaware Staff using infrared Camera for inspection. This and other photos and graphics are used in MARAMA's newly updated HON, MON and Polymers and Resins course.

FY 2007 Event Participant Summary

MARAMA Held 24 Events and Supported 7 Others

	Attendees at 16 Training Courses	Participants at 8 MARAMA Meetings	Representatives at 7 Other Events
Allegheny County	6	10	4
Delaware	6	12	7
District of Columbia	2	6	6
Maryland	49	7	7
New Jersey	19	13	3
North Carolina	17	11	4
Pennsylvania	51	12	5
Philadelphia	14	9	4
Virginia	107	10	6
West Virginia	13	9	2
Other States/Localities	3	15	0
Subtotal	287	114	48
EPA	0	34	0
Other*	18	94	0
TOTAL	305	242	48

*Other includes MARAMA staff, outside speakers, and others.

Learn About the Mid-Atlantic

The February 2007 "train the trainer" offering of MARAMA's "Regional Air Quality in the Mid-Atlantic United States" honed member and staff presenter skills. New electronic resources support students and instructors. Contact MARAMA for information.

Directors Learn & Network

Several MARAMA Directors participated in the thought provoking MIT Endicott House Symposium on Climate Change on August 7-9 in Dedham, MA.

Workshops Take Center Stage

Science Meeting Sheds Light on Airborne Organic Carbon

The annual MANE-VU Science Meeting was again a highlight of MARAMA's year. The July 10-11 meeting focused on organic carbon and provided up-to-date insights into this complex topic. Monitoring data indicates organic carbon is the second most important contributor to regional haze in MANE-VU, and organic carbon is even more important in major urban areas as a component of $PM_{2.5}$.

One of the key presentations at the meeting was given by Professor Allen Robinson of Carnegie Mellon University. Dr. Robinson explained that low volatility organic vapors are important precursors of secondary organic aerosol particles. In commenting on the meeting, Rich Poirot of Vermont noted, "Allen Robinson's talk showed we need to rethink the concepts of 'primary' and 'secondary' organics..." Dr. Robinson's work indicates that organic compounds may change phases as they age in appropriate conditions.

This year the Science Meeting was co-sponsored for the first time by the Midwest Regional Planning Organization. Over 60 participants from as far away as California attended the two-day event. Public agencies, private regulated industries, trade associations, universities, and regional planning organizations were represented.

Weight of Evidence Meeting Timely and Effective

Participants at MARAMA's Workshop on "Weight of Evidence Demonstrations for Ozone SIPs" were very enthusiastic. Comments included: "Very timely workshop—Great insight!" (Chris Salmi, NJ DEP) MARAMA planners met in New Jersey in February to share approaches and learn about regional modeling results and the emissions inventories supporting them. "I gained real information that I can use in my attainment demonstration." (Christine Schell, NJ DEP) Over 40 people attended, including Air Directors and key staff from nearly all MARAMA agencies, EPA representatives, and speakers.

New Tools Available for States



Released on February 19, 2007 MARAMA's Assessment of Control Technology Options for Petroleum Refineries in the Mid-Atlantic Region, will help States to develop effective emission control strategies. Model rules were also developed to further support State air quality improvement efforts.

The report provides comprehensive information about seven major refinery processes that account for a large portion refinery emissions. It does not make control level recommendations, but does identify technology options and associated costs for consideration.

Model rules were prepared for fluid catalytic cracking units, enhanced leak detection and repair, and flares. Rules were developed to reflect the requirements of recent consent decrees and provide more stringent requirements where technologically feasible and when cost-effective options have been identified.

The report and model rules were prepared for MARAMA by MACTEC Federal Programs, Inc. with participation from Delaware, New Jersey, New York, Philadelphia, Pennsylvania, Virginia and West Virginia.

Support Offered for Monitoring Conference

In place of our annual monitoring meeting, MARAMA provided support for members attending the National Air Quality Monitoring Conference in November 2006. MARAMA's Bill Gillespie presented an analysis of $PM_{2.5}$ speciated data as part of this special conference.

Training Committee Active

In addition to their Annual meeting in August, the Training Committee met via conference call in November and May. The Committee helps organize and publicize MARAMA's training schedule.

Visibility Efforts Gain Momentum

Controlling Regional Haze Sources

Released in July 2007 *The Assessment of Reasonable Progress for Regional Haze in MANE-VU Class I Areas* served as a resource for MANE-VU states as they worked to achieve regional agreement on control strategies to reduce regional haze by 2018. Prepared for MARAMA by MACTEC, the report summarizes MANE-VU's assessment of pollutants and associated source categories affecting visibility in Class I areas in and near MANE-VU, lists possible control measures for those pollutants and source categories, and presents the requisite four factor analysis of those possible measures.

Control technologies to achieve reasonable progress goals were evaluated with respect to the four factors listed in the Clean Air Act (Section 169A): cost, compliance time frame, energy and non-air quality environmental impacts, and remaining useful life for affected sources.

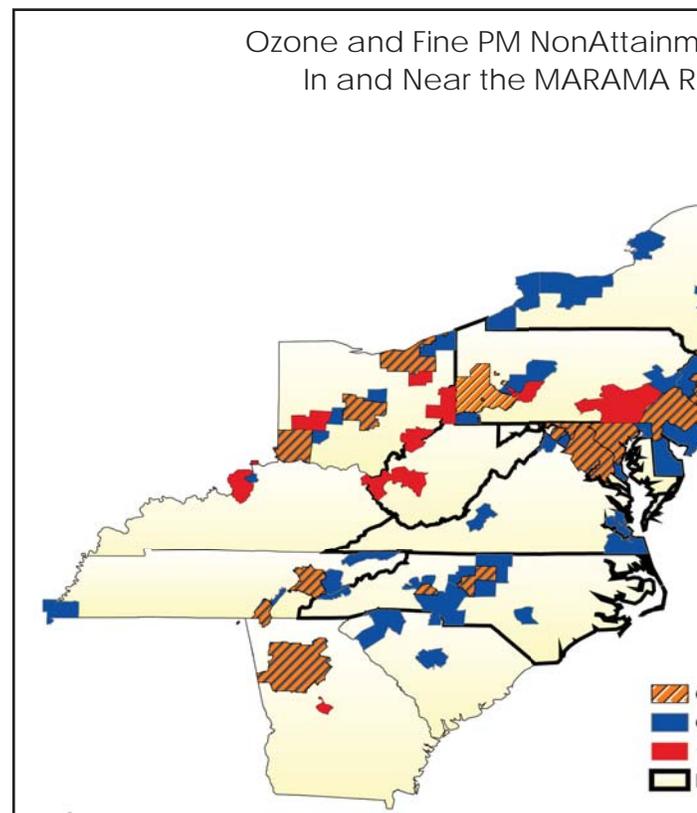
MARAMA provided staff and contractor support for MANE-VU's Reasonable Progress Work Group.

States Prepare to Submit Regional Haze State Implementation Plans

A state's Implementation Plan for a given air pollutant is the culmination of years of monitoring, analysis, and policy development. To assist the MANE-VU states as they assemble the pieces for the regional haze SIPs, MARAMA worked with an expert team of state SIP writers to significantly enhance the *SIP Template* originally developed in 2005. Additional analysis and data were incorporated into the text based on recent technical work. The *Template* will be completed next year as decisions are made on reasonable progress goals and elements of the long term strategy.

In the first quarter, MARAMA completed a technical support document on smoke management and another on the management of emissions from construction. These documents will help states fulfill the requirements of EPA's regional haze rules and complete their SIPs.

MARAMA also continued its work to better understand how to reduce emissions from residential wood combustion. A report on the costs of various control options for emissions from residential wood combustion was completed for MARAMA by OMNI in December 2006. MARAMA also worked with EPA and NESCAUM to organize a meeting focused on addressing residential wood combustion in regional haze SIPs. The meeting was held in July 2007 in Maryland, and participants came from twelve state and local agencies, EPA, and several regional organizations both in and outside MANE-VU.



Survey Says...

A web-based survey indicated the MANE-VU newsletter provided useful information and was easy to understand. MARAMA develops the newsletter twice a year

MARAMA Staff Recognized

Ms. Stephenson and Ms. Wierman were recognized by Clean Air Partners for their contributions to establishing the partnership in their former positions with the Baltimore Metropolitan Council and Maryland Department of the Environment, respectively.

Morris Fine Reflects on Public Service

Philadelphia's Air Director, Morris Fine, retired in 2007 after 38 years of service. He joined Air Management Services (AMS) in 1969, right after the adoption of the Philadelphia Air Management Code that established the City's air pollution control agency. He became director of AMS in 1999 and served as Chair of MARAMA in 2002. MARAMA interviewed Mr. Fine just before he retired. We asked him to comment on the value of MARAMA membership, and he replied,

"MARAMA was most valuable to Air Management Services for providing the training and workshops necessary for the staff to learn the skills and maintain the competency necessary for the program to fully function. For a small local agency like AMS, finding the resources that would provide these highly technical and specialized services would have been much more difficult and expensive."

Mr. Fine was one of the founders of the Mid-Atlantic Diesel Collaborative and served as its first Chair. He had previously demonstrated his commitment to reducing diesel emissions by helping to start the Philadelphia Diesel Difference program, and he ranked this as one of his most significant contributions to air quality improvement. He noted,

"Philadelphia Diesel Difference [PDD] has brought into local focus the need for reducing diesel emissions as an important means of improving Philadelphia's air quality. In addition to the many projects completed and underway, the PDD has caught the attention of local government and industry. For instance, work is now underway that would, within the next year, stipulate provisions in public works construction contracts undertaken in Philadelphia to require retrofit conversions for pre-2007 model year vehicles."

Finally, we asked Mr. Fine what gave him the most satisfaction about being air director, and he replied, "I think the answer to this one is public service. Working together with my colleagues for the purpose of benefitting the health and quality of life for ordinary people provided the most satisfaction."

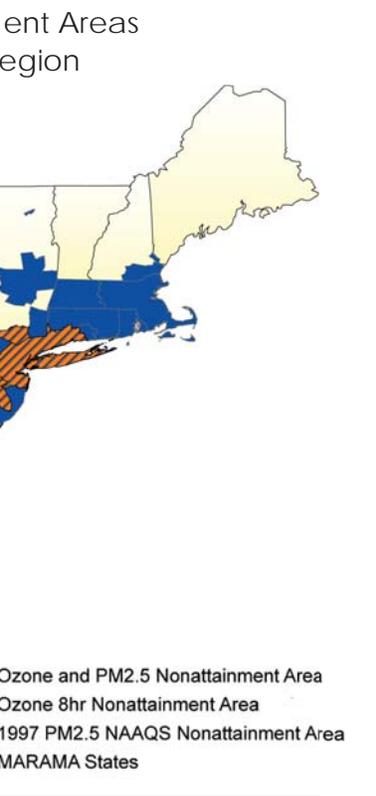
MARAMA appreciates the contributions and accomplishments of Morris Fine and wishes him well in his retirement.

Air Quality Improves in Region

<http://www.epa.gov/ttn/amtic/tnalinks.html>

Air quality continues to improve. In FY 2007, 16 of 41 ozone nonattainment areas in the MARAMA region met the National Ambient Air Quality Standards (NAAQS) and were redesignated to attainment, including Shenandoah National Park. Six more areas achieved attainment status in early 2007, with three others pending.

Eighteen MARAMA areas remain designated as not attaining the NAAQS for fine particulate matter (PM_{2.5}). Eight of these are interstate areas. On June 20, 2007, EPA proposed to strengthen the NAAQS for ozone. Nonattainment designations will be revised in 2008.



Collaborative on Display

MARAMA's table top display sparked discussions about the Mid-Atlantic Diesel Collaborative at the April Innovative Funding Forum and again in May at the EPA Region III Air Directors' meeting.

Guide to inventory

MARAMA's *Overview of MANE-VU Emission Inventory Projects* summarizes each project and provides URL links or ftp addresses for databases, summary tables, and documentation for each project.

Diesel Efforts Moving Forward

MARAMA helped the Mid-Atlantic Diesel Collaborative get two grants under-way, coordinate two major workshops, and restructure its working groups.

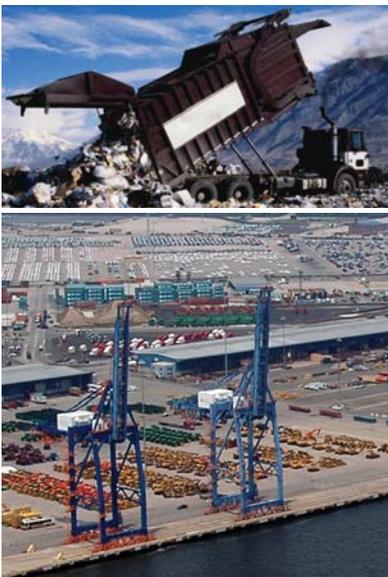
Demonstration Projects Initiated

In April 2007, after reviewing several competing proposals, EPA Region III awarded MARAMA a grant to support three unique Diesel Collaborative projects. As proposed by the Steering Committee of the Mid-Atlantic Diesel Collaborative each project involves a partnership with one or more local groups.

MARAMA awarded \$127,200 to the City of Pittsburgh in partnership with the Group against Smog and Pollution and Clean Water Action to retrofit waste haulers owned by the City of Pittsburgh. The pilot group of approximately 12 vehicles will account for roughly 18 percent of the city's fleet of 68 waste hauling vehicles.

For the second project Philadelphia's Air Management Services (AMS) will oversee the Office of Fleet Management's installation of Diesel Oxidation

Catalysts (DOCs) on approximately 70 fire engines. Philadelphia AMS will be providing a 50 percent match to the MARAMA contribution of \$88,738.



Finally, MARAMA offered funding to the Maryland Port Administration (MPA), to support the evaluation of diesel retrofits technologies on two different types of large cargo handling cranes. The MPA owns and maintains two types of cranes, ship-to-shore and rubber tire gantry (RTG) cranes. The MPA plans to retrofit one of each type of crane with diesel oxidation catalysts (DOCs) on the cranes' engines. The cranes were chosen due to their extensive hours of usage, thus having the potential to be a significant reduction of emissions. MPA will match the \$12,000 provided through MARAMA for this project.

Repositioning the Collaborative

Over the past three years the Collaborative has developed a network of groups working to reduce diesel emissions.

At the September 12 Roundtable Discussion, 25 attendees from the public and private sectors, the environmental community, and trade associations discussed the Collaborative's accomplishments and areas needing additional focus.

The discussion yielded a Restructuring Options Document that was approved by the Collaborative Steering Committee early in FY2008.

Financing Diesel Emission Reductions

New technology does not come cheap. To support regional efforts to reduce diesel emissions MARAMA worked with EPA Regions I, II, and III to host 95 participants at the Innovative Funding Forum in Philadelphia, PA on April 23-24, 2007.

This event provided a forum for dialogue and identified innovative financing strategies and funding opportunities to reduce diesel emissions and promote fuel-efficient technologies. Topics included using Congestion Mitigation and Air Quality (CMAQ) funds, and working with finance structures such as revolving loans.

MDC Website Gets New Look

Mid-Atlantic Diesel Collaborative Website was overhauled to better serve participants. Visit www.dieselmidatlantic.org for up-to-date information on the Collaborative.

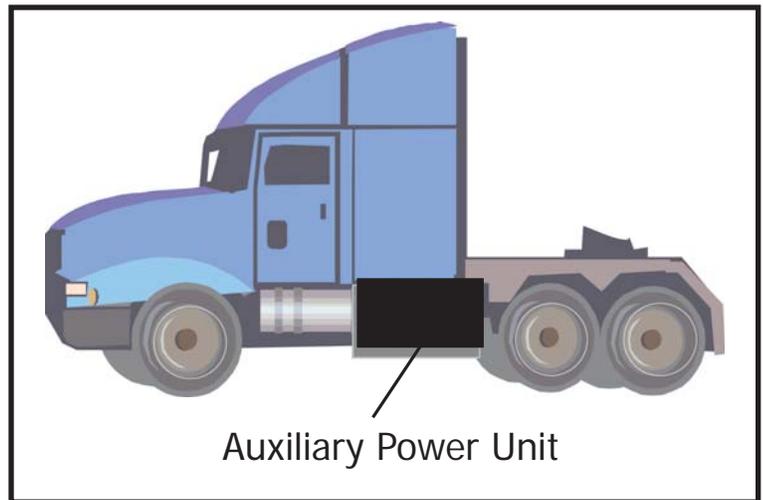
NJ Shares Expertise

Linda Bonanno and Olga Boyko from NJ DEP assisted consultant and former NJ DEP air toxics chief Joann Held in presenting EPA's three-day course, "Risk Assessment for Air Toxics." Thirty MARAMA members received this important training in November 2006.

All Powered Up – Auxiliary Power Units

Ten small business trucking companies from Delaware and Pennsylvania have been very enthusiastic about the Auxiliary Power Units (APUs) they installed this year with help from MARAMA and EPA. MARAMA's Anti-Idling Small Business Grant Initiative sought small business owner/operators of trucks to provide data regarding the effectiveness of APUs. By the close of the year participants had submitted their baseline data and information about the first six months of operation.

Owner/operators and small trucking companies are a significant segment of the long haul population, often operate vehicles that pollute more due to vehicle age, and have great potential to reduce emissions. Drivers are familiar with APUs and would like to install them on their vehicles not only for fuel savings but also for daily comforts. Unfortunately APUs are not cheap, with initial up-front costs for purchase and installation ranging from \$6,000-\$10,000 per unit. Many drivers simply cannot afford that out of pocket and have trouble qualifying for loans. Grants and other types of support have helped bridge the gap for numerous small trucking companies either by reducing the amount that comes out-of-pocket or by making the company a better credit risk for a loan. This project will help document the air quality benefits of APUs.



Recognizing Service to the Region

2007 Outstanding Achievement

Each year many MARAMA members work together on regional projects. At their Annual Meeting in February 2007, the MARAMA Board of Directors approved the following awards for outstanding service to MARAMA:

Richard Rasmussen, Virginia

In recognition of his initiative in developing the APU retrofit program and his continuing support for reducing diesel emissions in the Mid-Atlantic Region.

Alice Lutrey, MARAMA

For over eight years of sustained superior performance as MARAMA's Training Coordinator and Office Manager.

Special Thanks

In February 2007, the MARAMA Directors also recognized the essential work of Andy Bodnarik and Liz Nixon of New Hampshire in support of MARAMA's work to forecast emissions from electricity generation in the eastern U.S.

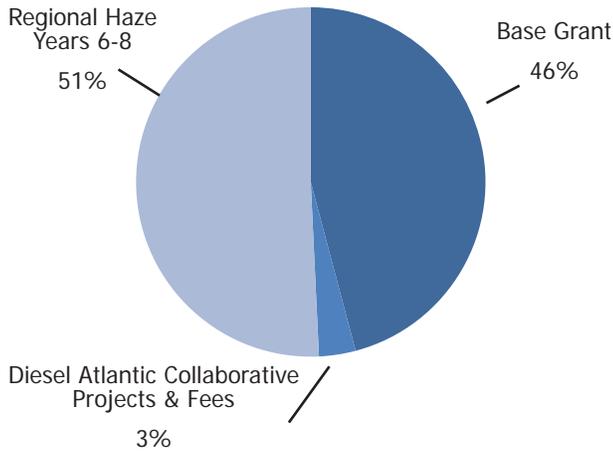
Steering Committee Represents the Region

The Mid-Atlantic Diesel Collaborative's Steering Committee voting members include the Air Directors from Allegheny County, PA, Delaware, the District of Columbia, Maryland, Pennsylvania, Philadelphia, Virginia, and West Virginia. Non-voting members are MARAMA's Executive Director and EPA Region III's Air Protection Division Director. In addition, New Jersey and North Carolina are non-voting liaisons with the Collaboratives to the north and south.

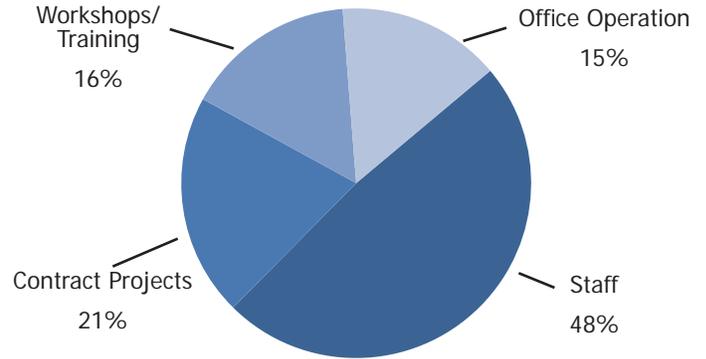
Financial Stewardship

Quarterly Board meetings help MARAMA Directors and EPA stay in touch with each other and ensure the careful use of MARAMA's grant resources. As regional haze grant funding declined and the PM grant ended, funding for technical contracts dropped by about 40% from 2006, and MARAMA reduced its staff size. MARAMA maintained an active training program and won special EPA grants for diesel emission reduction projects, which will continue in 2008. Total expenses decreased from nearly \$1.1 million in 2006 to just over \$855,000 in 2007.

Revenues



Expenses



What is MARAMA?

The Mid-Atlantic Regional Air Management Association, Inc. 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 members to implement common requirements.

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Mid-Atlantic Regional Air Management Association, Inc.
8600 LaSalle Road, Suite 636
Towson, Maryland 21286
phone 443.901.1882 ~ fax 443.901.1886 ~ www.marama.org

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