

2010 Annual Report

MARAIMA

Mid-Atlantic Regional Air Management Association, Inc.



empowering member agencies

INSIDE

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IMPROVING AIR QUALITY BY EMPOWERING MEMBER AGENCIES

For over 21 years MARAMA has worked to empower agencies to improve air quality throughout the Region. As a touch point for our member agencies, MARAMA provides Air Directors, senior technical and policy staff, new employees, and others the opportunity to meet, share, and learn from one another. Building a common understanding of each other's perspectives is the first step toward working together. As a Regional convener, MARAMA facilitates reviews and comparisons of regional air regulations and helps determine how to "level the playing field" while maintaining effects controls.

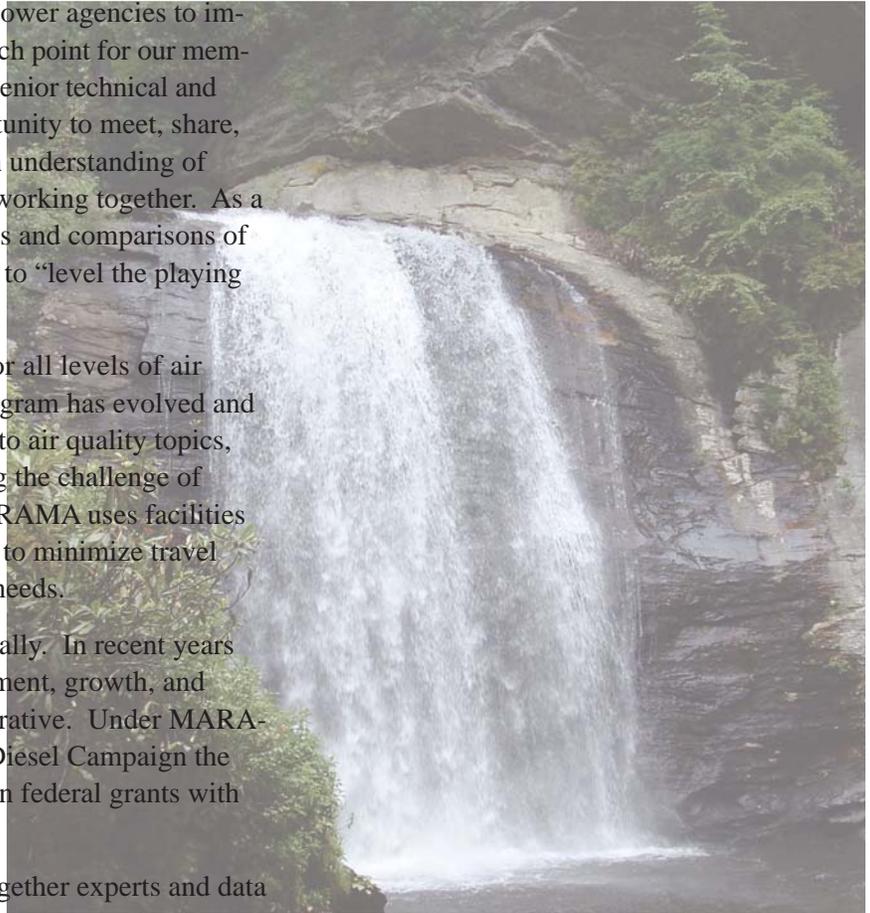
MARAMA coordinates training opportunities for all levels of air pollution control professionals. Our training program has evolved and continues to be flexible and responsive, not only to air quality topics, but also to changing training technology. Meeting the challenge of training staff in a time of shrinking budgets, MARAMA uses facilities at member agencies providing multiple offerings to minimize travel costs, and works creatively to meet key training needs.

It just makes sense to address some issues regionally. In recent years MARAMA has played a key role in the development, growth, and management of the Mid-Atlantic Diesel Collaborative. Under MARAMA management part of EPA's National Clean Diesel Campaign the Collaborative is implementing over \$12 million in federal grants with total project costs of over \$24 million.

MARAMA's emissions inventory work brings together experts and data from throughout the region and beyond. Both interstate consistency and data quality are improved by MARAMA's efforts.

This report highlights activities in our 21st year. We look forward to empowering our members to meet new challenges in the years to come.

Susan S.G. Wierman, Executive Director



CONTINUED UNCERTAINTY ABOUT OZONE STANDARDS

EPA strengthened the ozone National Ambient Air Quality Standard (NAAQS) in March 2008, adopting a new level of 0.75 ppm. Nonattainment areas were to be designated by 2011, with State Implementation Plans due by 2013.

Petitions challenging EPA's 2008 ozone standard were filed, both by groups contending the standards were too stringent, and by others asserting they were not sufficiently protective. In September 2009, EPA announced it was reconsidering the standards, and in January 2010 EPA proposed to further strengthen the ozone standards. EPA stated that the standards would be final by August 31, 2010. An accelerated implementation schedule anticipated nonattainment area designations by July 2011, with SIPs submitted by December 2013. Attainment deadlines ranged from 2014 to 2031 depending on the severity of the problem.

However, EPA was unable to finalize the standards by August 2010 and in December 2010 notified the US Court of Appeals it would set the final standards by July 29, 2011. The implementation schedule remains uncertain, and EPA will not propose revised implementation guidance until it finalizes the revised NAAQS. Until the reconsideration is completed, the ozone standard effectively remains at 0.08 ppm.

TRAINING MEMBERS AT HEART OF MARAMA'S MISSION

Each year MARAMA invests significant staff resources and funding to improve our training program serving the Mid-Atlantic Region. FY 2010 capacity improvements were marked by the shift to an on-line registration system and our first webinar: Area Source Emissions Inventory Development.

Continuing the theme of building regional capacity to improve air quality, MARAMA took the training to the members. Six events were held in Maryland, six in Pennsylvania, seven in Philadelphia, and seven in Virginia. The Advanced Permitting Workshop and the Emissions Calculations & Data Reduction course were offered in both Richmond, VA and Philadelphia, PA to adapt to member travel restrictions.

FY2010's most popular events, each with at least 45 attendees, were the Advanced Permits Workshop, the Monitoring Committee Workshop (Philadelphia), and the SIP Coordination Meeting (Baltimore).

Going forward, MARAMA will facilitate training through a blend of self-instructional internet tools, telephone and web-based conferences, and face-to-face meetings and site visits.

Some of our most successful events involve the participation of regional and national experts from EPA and universities, and we will continue to emphasize this approach.

TRAINING TIDBITS

MARAMA sponsored 19 training courses during FY 2010, along with three workshops, a Training Committee meeting, and three Board meetings. In total, over 500 member agency staff attended these events.

MARAMA also helped fund 64 member agency staff who attended EPA or other professional training events or conferences.

The average attendance at MARAMA courses and workshops was 25.

The numbers below represent total agency participants for all MARAMA events during FY 2010.

- ❖ Allegheny County - 40
- ❖ Delaware - 36
- ❖ District of Columbia - 54
- ❖ Maryland - 90
- ❖ New Jersey - 49
- ❖ North Carolina - 14
- ❖ Pennsylvania - 91
- ❖ Philadelphia - 40
- ❖ Virginia - 140
- ❖ West Virginia - 47



SUCCESS DEPENDS ON OUTSTANDING MEMBERS: 2010 OUTSTANDING SERVICE AWARD

MARAMA's success depends on collaborative efforts by staff from member agencies. Each year MARAMA Air Directors present an award for outstanding service to one of these individuals.

In FY 2010 the MARAMA Outstanding Service award was presented to Charles Pietarinen of New Jersey for sustained leadership representing MARAMA on the National Monitoring Steering Committee. The Board recognized his scientifically informed and assertive representation of the region and his positive influence on national policy decisions.

ESTIMATING EMISSIONS FOR AIR QUALITY MODELING

MARAMA continued to refine emissions estimates for regional air quality modeling in the Ozone Transport Region. A multi-pollutant approach to concurrently analyze ozone, fine particles, and regional haze has been adopted. In FY 2010 MARAMA made significant progress on development of the 2007 base case emissions inventory. By April 2010 point and non-road data was complete in time for preliminary 2007 modeling work. The area source sector was completed by August 2010.

The importance of short term emission spikes during periods of high electricity demand drove a major improvement in the inventory. Instead of standard diurnal and daily profiles, we are using actual 2007 hourly emissions from Electricity Generating Units (EGU). Since hourly EGU emissions reflect the demand resulting from temperature extremes, this approach will better match the emissions to the 2007 meteorological data.

By Spring 2010 MARAMA was ready to begin work estimating future year emissions. However, first the Ozone Transport Commission Air Directors needed to select future years to model. Delays in the ozone standard, the transport rule, and federal Maximum Achievable Control Technology (MACT) standards made it difficult to identify the attainment year. After significant consultation with other regions and EPA, in May 2010 the Directors selected 2013, 2017, and 2020 as the years of interest and gave MARAMA the green light to begin development of the future year emissions inventories.

Throughout the inventory development process MARAMA helped states identify needed improvements by mapping and graphing emissions information, and encouraged consistent use of best practices. MARAMA provided opportunities for public comment on data and documentation. Stakeholder comments were reviewed by states, which retained final control.

MARAMA also organized an inter-regional data sharing group including MARAMA, LADCO and SESARM representatives. This group will share information and files. MARAMA hosts a web site to share emissions data among the regions and organizes monthly inter-regional emissions coordination calls.

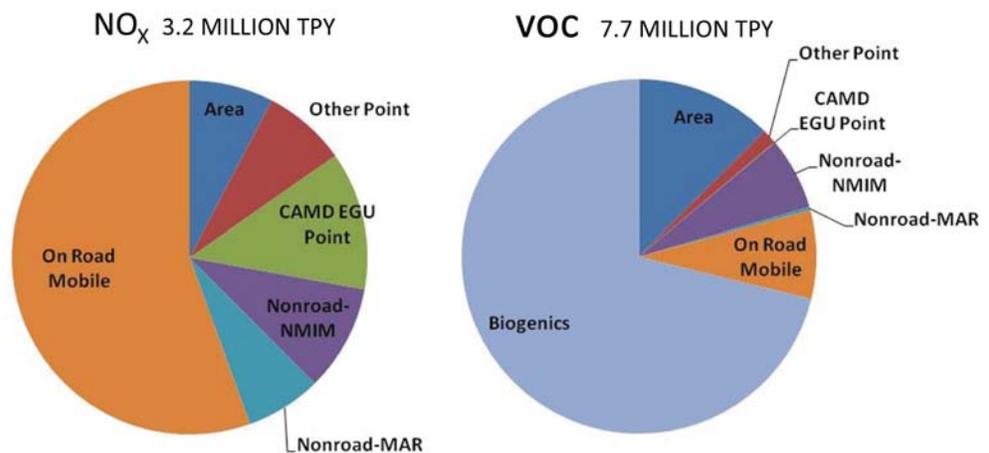
MOVES MODEL COORDINATION

Soon after EPA's January 2010 release of the MOVES model for calculating on-road mobile source emissions MARAMA had compiled and reviewed input data for 2007. Running the MOVES modeling system was more complex than anticipated.

MARAMA hosted monthly coordination calls for MOVES modelers, state inventory personnel, and representatives of EPA. Lead MOVES modeling centers developed in New York, Pennsylvania, Virginia, and at the Northeast States for Coordinated Air Use Management (NESCAUM). MARAMA gathered input data and facilitated coordination.

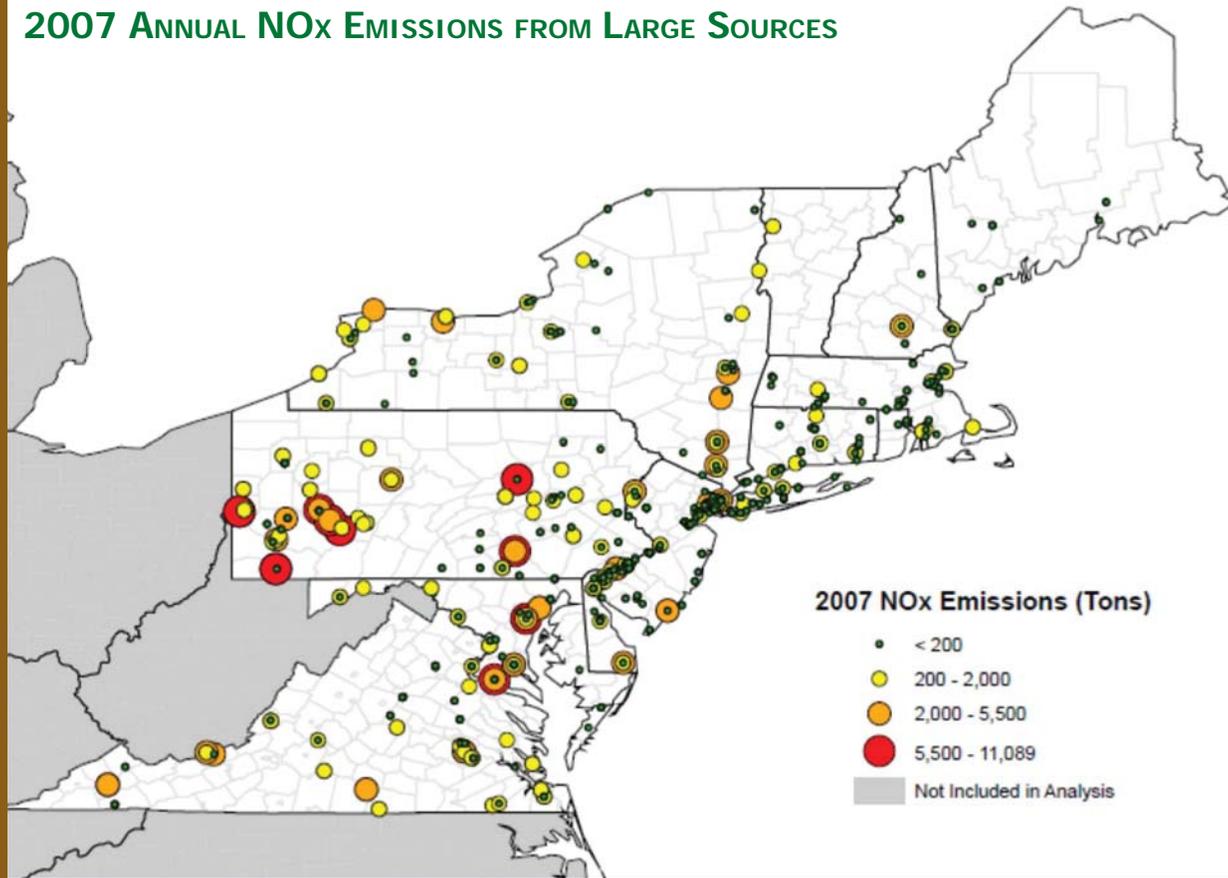
The lengthy process continues to be characterized by outstanding cooperation and consultation by all parties.

2007 EMISSIONS OTC+VA REGION



Mobile emissions are draft and subject to change (2007 NYDEC proxy)

2007 ANNUAL NO_x EMISSIONS FROM LARGE SOURCES



COLLABORATING WITH OTHER REGIONS TO IMPROVE EMISSIONS ESTIMATES

In FY 2010 the Eastern Regional Technical Advisory Committee (ERTAC) was established as a cooperative effort of MARAMA, Lake Michigan Air Directors Consortium (LADCO), and the Southeastern States Air Resource Managers (SESARM) to provide a new forum for inventory improvement for states east of the Mississippi River. ERTAC convenes experts from agencies, regional planning organizations, and industry, forming workgroups to address particular inventory projects. Upon completion of a project its technical workgroup is dissolved. MARAMA played both technical and coordination roles on all ERTAC workgroups. ERTAC workgroups produced products that improved both the 2007 regional emissions inventories and state data submitted to the National Emissions Inventory.

ERTAC's area source calculation group led to a website (funded by EPA) summarizing the selected best calculation methods, emission factors, and tools. ERTAC participants also calculated rail emissions for the entire eastern U.S. using an industry-provided proprietary database. The study results were presented as a paper at the EPA Emissions Inventory conference and are posted on the MARAMA FTP site. OTC states either used the rail study results directly or used them to inform their own calculations. The methods developed by the EGU temporal group were reported in a white paper and were used by MARAMA's contractor to develop hourly EGU profiles. EPA provided contractor support to convert the residential wood committee recommendation into a tool that can be used to calculate emissions in any year. The tool was used by most states in the region to estimate residential wood emissions.

With MARAMA staff support, the EGU growth workgroup began meeting in April 2010 to develop an agreed approach to develop a new tool to forecast emissions from EGUs. The strategy was refined through a series of conference calls and shared work products. By the close of FY 2010 the group was ready to engage contractor support to write the software to implement the concept.

DIESEL PROJECTS UNDERWAY IN FY 2010

Retrofits: Diesel Oxidation Catalysts (DOC) / Diesel Particulate Filters (DPF)

- ❖Pittsburgh, Waste Haulers (DPFs)
- ❖Maryland State Highway Administration, Dump Trucks (DOCs)
- ❖Montgomery County Maryland, various equipment (DPFs/DOCs)
- ❖Virginia Green Operator, Dray Trucks (DOCs/DMFs)

Early Replacement

- ❖Alexandria Virginia, Hybrid Transit Buses
- ❖York County Virginia, Tier 3 Backhoe
- ❖Chaney Enterprises, Cement Trucks
- ❖Virginia Green Operator, Dray Truck Retrofits and Replacements
- ❖Mid-Atlantic Regional Dray Truck Replacement Program

Engine Repower

- ❖Cleveland Brothers, Offroad Equipment Repowers
- ❖CSX, Switcher Locomotive Repower
- ❖Annapolis Harbormaster, Harbor Craft
- ❖K-Sea Transportation Partners, Tug Boat
- ❖Norfolk Tug Company, Tug Boats

Fuels

- ❖Virginia Port Authority, Biodiesel

Idle Reduction

- ❖Virginia Beach City Public Schools, School Bus Idle Reduction

SECURING DIESEL GRANTS FOR THE MID-ATLANTIC REGION

This year MARAMA significantly expanded the resources available to the Mid-Atlantic Diesel Collaborative by securing a \$3.9 million grant from nationally competed EPA SmartWay funding. This grant will be used to reduce emissions from dray trucks serving several marine ports. MARAMA was also granted \$500,000 from EPA Region III to repower a tug boat operating in Norfolk.

Grant management and detailed American Recovery and Reinvestment Act (ARRA) reporting requirements posed significant challenges. Some of the original eight projects in MARAMA's ARRA grant program were not possible as the recession constricted budgets. Furthermore, some projects required additional funding, and others were revised to meet technical or administrative requirements. Through its extensive network of Diesel Collaborative contacts, MARAMA identified replacement projects, revised grant and project descriptions and budgets, and obtained approvals from EPA and recipients. EPA extended the ARRA grant project period which enabled Annapolis to overcome significant technological challenges posed by their innovative harbor craft hybrid/electric repower project, and accommodated the extended delivery time needed for the Alexandria Transit Company hybrid bus replacement project.

MARAMA's diesel program operated with a very small (but productive!) staff, along with expert contractors. Team members included Emissions Advantage, LLC, which provided technical assistance for MARAMA ARRA projects, and Virginia Clean Cities, Inc. which helped manage projects funded by Virginia.

OUTREACH TO SUPPORT DIESEL PROJECTS CONTINUES

In its sixth year, MARAMA's support for the Mid-Atlantic Diesel Collaborative promoted diesel projects via conference calls, project development, presentations, grant management expertise, and technical insights.

MARAMA staff:

- Built support for diesel projects;
- Hosted a series of stakeholder calls designed to share information and build geographic capacity for developing and implementing diesel projects focused on Pennsylvania, Maryland, and Virginia;
- Joined EPA Region III at a meeting in West Virginia in October 2009;
- Coordinated a series of Diesel Collaborative conference calls bringing in national level speakers covering marine and locomotive technologies;
- Organized a meeting of Mid-Atlantic Dray Truck Discussion Group which drew environmental leaders from the Region's ports, trucking, and environmental communities; and
- Presented at local and regional meetings to communicate lessons learned from projects such as the Diesel Collaborative Demonstration Grant which supported real world applications of retrofit devices on waste haulers (Pittsburgh), first responder equipment (Philadelphia), and a large crane (Baltimore).

REVAMPED WEBSITE IMPROVES MEMBER SERVICES

MARAMA launched a redesigned web site on July 30, 2010. Up-to-date navigation and reorganized content provide improved member service. When landing at www.marama.org, users gain quick access to coming training events and items of interest and find portals to three key functional areas: the regional emissions inventory project, the Mid-Atlantic Diesel Collaborative, and current air quality and daily forecasts.

As MARAMA's most used web resource, the Training Center continues to serve as a gateway to all MARAMA's Training offerings. Users can quickly register for a workshop, find out about the newest course offerings, access information on travel reimbursements, or download archived presentations.

The redesigned Technical Center fosters collaboration and coordination. These two guiding principles are met through MARAMA's projects focusing on Air Quality Data Analysis, the Mid-Atlantic Diesel Collaborative, Emissions Control Analysis, Emissions Inventory, and Regional Haze Planning.

A new "Members Only" section of the site provides an area where information can be shared privately among MARAMA members. The MARAMA Training Committee was the first to initiate use of this area.

Please take some time and view our new website. We invite your thoughts and comments as we continually strive to use web based tools to improve service to our members!

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PUBLICATIONS | RESOURCES

Items of Interest

MARAMA keeps an online library of all their publications. To see what is available click on [Publications](#).

Coming Events

Monitoring Meeting **POSTPONED!!!**

2011 MARAMA Monitoring Committee Meeting - April 12-13

Registration Now Open!

MARAMA/JCAC Advances in Control Technologies Workshop - May 18-19

[See all training and events >](#)

Recent Emissions Inventory

MARAMA is coordinating the development of regional emissions inventories for air quality modeling. The inventories include emissions from Connecticut, Delaware, the District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Virginia. For the latest information visit the [Emission Inventory section](#).

Mid-Atlantic Diesel Collaborative

The Mid-Atlantic Diesel Collaborative is a partnership between leaders from federal, state, and local government, the private sector, and environmental groups in Delaware, Maryland, Virginia, Pennsylvania, West Virginia and the District of Columbia. The Collaborative is part of an overall national campaign to reduce diesel emissions.

Current Air Quality

AirNow.gov offers daily AQI forecasts and real-time AQI conditions for over 300 cities across the US. [Visit site >](#)

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2010 PUBLICATIONS

+ Experience in Reducing Diesel Emissions from Waste Haulers, Fire Engines, and Cargo Handling Cranes (March 2010)

Projects in Pittsburgh, Philadelphia, and Baltimore demonstrated that diesel retrofits did not compromise normal equipment operation in real life applications. This project set the stage for successful follow-up projects.

+ Improving Estimates of Air Pollutant Emissions in the Northeast and Mid-Atlantic States (NARSTO Report #10-001) (March 2010)

Priorities for improving estimates of emissions in the region were identified at a November 2008 workshop cosponsored by MARAMA, NYSERDA, and NARSTO.

+ Report on the Mid-Atlantic Northeast Visibility Union (MANE-VU) 2009 Science Meeting, Total Reactive Nitrogen (May 2010)

Experts and MANE-VU members convened in July 2009 to assess the regional impact of ammonia and other nitrogen emissions. More work is needed on this key topic.

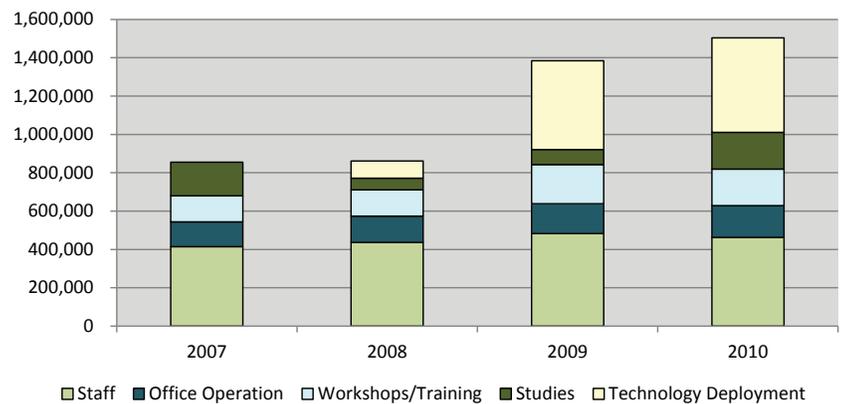
FUNDING AND ADMINISTRATION

Member support via MARAMA's Base Grant is about \$348,000 annually, supplemented by about \$250,000 in training funding. Costs for staff and office operation totaled about \$650,000 in FY 2009 and FY 2010, reflecting the importance of other grants to support staff, contractors, and diesel projects.

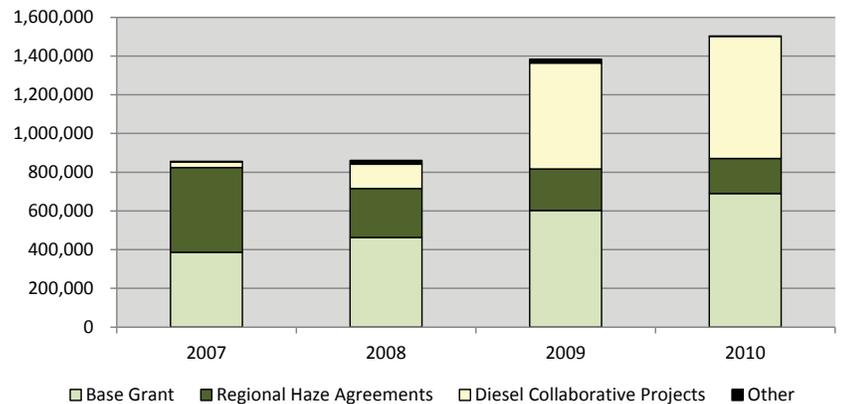
The growth in MARAMA's diesel program supported significant technology deployment. Conversely FY 2010 regional haze revenue fell by more than 50 percent from FY 2007 as EPA support for this grant waned. The increase in support from base grants in FY 2009 and 2010 reflects the timing of expenses: base grant funds were carried forward from previous years as emissions inventory work was completed.

Costs for staff were relatively constant, increasing slightly in FY 2009 as part-time staff hours ramped up to handle the diesel program, and decreasing in FY 2010 because MARAMA's Senior Engineer worked part-time. Staff costs covered by MARAMA's base and regional haze grants together dropped by about \$50,000 from FY 2009 to FY 2010. The percentage of staff costs covered by diesel grants jumped from 8% to 17% of total staff costs from FY 2009 to FY 2010.

EXPENSES



REVENUES



BOARD OF DIRECTORS, 2010

Sheila Holman, North Carolina, Chair
Cecily M. Beall, District of Columbia, Vice Chair
James E. Thompson, Allegheny County, Treasurer
Ali Mirzakhali, Delaware
George S. "Tad" Aburn, Jr., Maryland
William O'Sullivan, New Jersey
Joyce E. Epps, Pennsylvania
Thomas Huynh, Philadelphia
Michael G. Dowd, Virginia
John A. Benedict, West Virginia

MARAMA STAFF, 2010

Susan S.G. Wierman, Executive Director
Hannah P. Andrews, Asst. Office Manager
Patrick W. Davis, Environmental Specialist
Alice R. Lutrey, Training Coordinator/Office Mgr.
Susan A. McCusker, Environmental Planner
Julie R. McDill, P.E., Sr. Environmental Engineer
Susan S. Stephenson, Diesel Program Manager
Joan E. F. Walstrum, Administrative Assistant

WHAT IS MARAMA?

MARAMA is a voluntary, non-profit association of ten state and local air pollution control agencies. MARAMA strengthens the skills and capabilities of member agencies and helps them work together to prevent and reduce air pollution impacts in the Mid-Atlantic region.

Mid-Atlantic Regional Air Management Association, Inc.

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