

# Mid-Atlantic Water Program: History and Future

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# USDA National Water Program

- 8 Regional Water Programs
- Partnerships between Land-Grant Universities
- *Mission:* to create and disseminate knowledge that insures a safe and reliable source of water of the appropriate quality to meet the needs of:
  - Food and fiber production,
  - Human health, use, and economic growth, and
  - Maintenance and protection of natural environmental systems

Applying knowledge to improve water quality

**National Water Program**  
A Partnership of USDA NIFA & Land Grant Colleges and Universities

[SEARCH Website](#)

About | NIFA Initiatives | Regional Programs | National Themes | Success Stories | Funded Projects | Proceedings

**Regional Water Quality Programs**  
(use map to select a region)

The National Water Program creates and disseminates knowledge that insures a safe and reliable source of water of the appropriate quality to meet the needs of:

- Food and fiber production,
- Human health, use, and economic growth, and
- Maintenance and protection of natural environmental systems

throughout the United States and its territories. Research, education, and extension programs are our avenue to protect and improve water resources in agricultural, rural, and urbanizing watersheds.

[Upcoming Events](#) (click for calendar)

[News & Highlights \(more...\)](#)

UConn Center for Land Use Education and Research (CLEAR) has developed a [Rain Garden smart phone app](#) that is now available for download from iTunes.

**Attention NIWQP Section 406 Awardees:**  
There will be an Annual Project Director's Meeting on July 22, 2013 at the [Soil and Water Conservation Society annual conference](#) ([www.swcs.org](http://www.swcs.org)) in Reno, Nevada.

The next National Land - Sea Grant Water Conference will be in 2014. More information on the date/location will come in Spring, 2013.

USDA  
United States Department of Agriculture  
National Institute of Food and Agriculture

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**NATIONAL Water Program**

# Mid-Atlantic Water Program



United States Department of Agriculture  
National Institute of Food and Agriculture

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# MAWP History and Accomplishments

- Established in 2002
- Leadership from University of Maryland

Tom Simpson



Doug Parker



Frank Coale



Program support by **Daphne Pee** (UMD)


- Focus Areas
  - Tools and Trainings for Program management (Capacity Building)
  - Science for Policy support
  - Extension for industry Change
  - Education and Assistance for the General Public

# Capacity Building


## Nutrient Budgets and the Bay manure management strategy

## Nutrient management handbook

Applying knowledge to improve water quality




**Mid-Atlantic**  
Water Program  
A Partnership of USDA CSREES  
& Land Grant Colleges and Universities



**Nutrient Budgets for the Mid-Atlantic States**

As part of the [Mid-Atlantic Water Program](#), Cooperative Extension specialists and researchers at several universities have developed county- and state-level [nitrogen](#) and [phosphorus nutrient budgets](#) for agricultural [cropland](#) in Delaware, Maryland, Pennsylvania, Virginia and West Virginia. These budgets provide the potential to improve water quality protection by supporting activities that address the lack of balance between available nutrient supplies and nutrient use by crops in a region. These nutrient budgets incorporate information updated from data sources such as the 2007 Census of Agriculture and 2007 fertilizer sales. To learn about specific cropland budgets, click on a state below.

Funding for this effort was provided by the US Department of Agriculture and the Chesapeake Research Consortium. This website is dedicated to the vision and memory of Les Lanyon, Professor of Soil Science and Management, Penn State University, and original leader of the Mid-Atlantic nutrient budget team.




**Mid-Atlantic States:**

- [Delaware](#)
- [Maryland](#)
- [Pennsylvania](#)
- [Virginia](#)
- [West Virginia](#)
- [Mid-Atlantic](#)


**Budget Details:**

- Data Sources
- Methods
- Assumptions
- Limitations
- References




UNIVERSITY OF DELAWARE UNIVERSITY OF MARYLAND PENN STATE VirginiaTech West Virginia University

MAWP 06-02  
February 2006



# The Mid-Atlantic Nutrient Management Handbook



Applying knowledge to improve water quality  
**Mid-Atlantic**  
Regional Water Program  
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& Land Grant Colleges and Universities

# Science for Policy Support

## Biofuel Production and Water Quality Impairments

## Nutrient Trading

### Biofuels and Water Quality

Meeting the Challenge & Protecting the Environment



Nationally, 113 Ethanol Plants Operating  
Photo by USDA NRCS

#### Introduction

A number of initiatives by state and federal government are setting goals for replacement of petroleum-based fuels with bio-based alternatives. The President proposed a national goal of reducing gasoline usage by 20 percent in the next ten years (the Twenty in Ten initiative) in his 2007 State of the Union address. Achieving these results would increase the alternate and renewable fuels goal to 35 billion gallons by 2017 (nearly five times the 2012 current target now in the 2005 Energy Policy Act). The Renewable Fuels Association (RFA), the national trade association of the U. S. ethanol industry, is promoting the 25x25 initiative to achieve 25 percent of U.S. energy from renewable resources like wind, solar, and biofuels by 2025.

From an economic perspective, it makes sense to produce agricultural-based biofuels close to the centers of demand. Thus, the Mid-Atlantic region is seeing a growing interest in production facilities for biofuels. There are about 15 ethanol facilities under construction or planned for the region. Collectively, they will have the capacity to produce about one billion gallons of ethanol per year using corn grain as the primary feedstock. To meet this demand, would require about 370 million bushels of corn per year -- more than 1.5 times the current regional production of corn.

Several biodiesel production plants using waste vegetable oils, soybean oil, animal fats and other

opportunity feedstocks are also planned. Biodiesel capacity is growing steadily, but much more slowly than ethanol.

On April 4-5, 2007, the USDA-CSREES Mid-Atlantic Regional Water Quality Program, the Chesapeake Bay Foundation, and the USDA-ARS Beltsville Agricultural Research Center convened a Biofuels and Water Quality Conference. The start of the Conference coincided with the USDA's Prospective Plantings Report; US farmers intend to plant 12 million more acres of corn than in 2006. To put things into perspective, the entire landmass of the State of Maryland is about 6.2 million acres.

The Conference was convened to identify and discuss the impacts, particularly to water quality, from growing and using agricultural-based feedstocks for biofuels production. For ethanol, the current feedstock of choice is corn grain but as cellululosic technologies are developed, feedstock preferences may evolve. Other potential biofuel technologies from gasification to pyrolysis, were also discussed. Feedstocks for these technologies could include agricultural biomass as well as manures and a broad range of urban generated wastes. This document summarizes the findings and recommendations from this two day conference. Research, programmatic and policy agendas for renewable fuels are also outlined.

#### The Demand for More Corn Production

Corn constitutes about 90% of the feedstock for ethanol production nationwide. The other 10% is composed of other grains such as sorghum, barley and wheat. Corn is used because the operational technologies for using corn grain are proven, fermentation of starches is relatively easy, and feedstock production, storage and handling capabilities are already in place.

For the last several decades, corn prices have been typically \$2.00-\$2.50/bushel. The rate of production has increased so rapidly that estimates of production and impacts on grain use have been revised upward monthly. Corn futures prices in

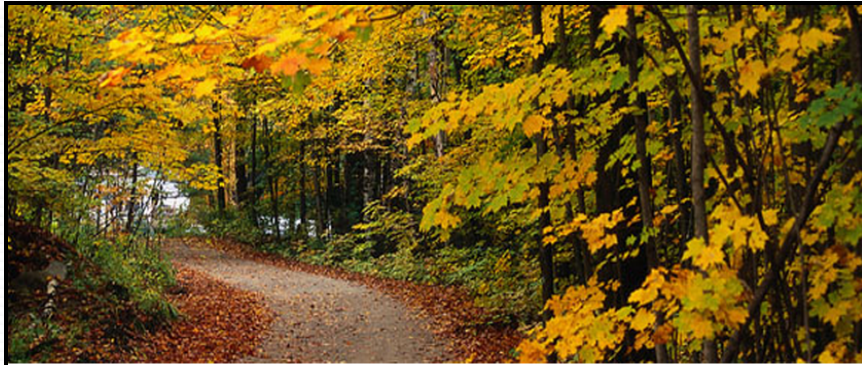
### A Primer on Water Quality Credit Trading in the Mid-Atlantic Region



The Mid-Atlantic Regional Water Quality program is a coordinated effort among: Delaware State University; University of Delaware; University of Maryland; University of Maryland, Eastern Shore; The Pennsylvania State University; Virginia State University; Virginia Tech; West Virginia University; West Virginia State University

# Extension for Industry Change

## Mid-Atlantic Better Composting School



### Mid-Atlantic Better Composting School

Composting is becoming the method of choice for converting organic waste into a marketable, commercial product. Service-providers in the horticultural industries, like nurseries, greenhouses, landscape contractors, garden centers, and landscape maintenance companies, are major users of organic matter and fertilizers. But getting these operations and their clientele to accept commercial compost alongside commonly used agents (such as fertilizers, processed manures, and peatmoss) requires controlled production conditions and standardized methodology.

Since commercial compost can be manufactured from a variety of waste materials, a variety of standards have been established based on end-uses. Managers of composting facilities must be familiar with these standards and with the waste materials and composting systems that can best produce the desired products. Composting to produce a product that is consistent in quality will require good management and quality control.

By enrolling in the Mid-Atlantic Better Composting School, participants will not only learn the basics of making good compost, but they will also have the opportunity to tour commercial operations, perform product sampling and learn simple procedures for compost testing.

## Precision Dairy Feed Certification

The screenshot shows the Penn State Extension website interface. At the top, there is a search bar and a dropdown menu for 'Search College'. The main header includes the Penn State logo and 'Penn State Extension'. Below the header is a navigation menu with categories: Animals, Plants & Pests, Natural Resources, Community & Business, Food & Health, Youth & Family, and 4-H. The 'Dairy' section is active, showing a sidebar with links to 'Dairy Herd Management', 'Business Management', 'Human Resource and Team Management', 'Nutrient and Feed Management', 'Feed Management for Producers', 'Certified Feed Management Planners: Dairy', 'NRCS Qualified Feed Management Planners in Pennsylvania', 'Dairy Feed Management Newsletter', 'Educational Programs', 'Certified Feed Management Planners: Beef', 'Educational Programs and Conferences', and 'Marketing and Outlook'. The main content area is titled 'Nutrient and Environmental Management' and includes a 'Share' button. The text discusses animal nutrition and feeding management, the impact of manure on soil nutrients, and the role of the Dairy Team in providing educational resources. A photo of cows in a barn is included, credited to USDA NRCS. At the bottom, there is a 'Learn More...' section with links for 'Courses and Workshops', 'Upcoming Events', 'News', and 'Dairy Digest', along with a 'Recommend' button and a note that one person has recommended the page.

# Education and Assistance for the General Public

## Master Well Owner Networks

The screenshot shows the Penn State Extension website. The header includes the Penn State logo, 'College of Agricultural Sciences', and 'Penn State Extension'. Navigation tabs include 'Animals', 'Plants & Pests', 'Natural Resources', 'Community & Business', 'Food & Health', 'Youth & Family', and '4-H'. The 'Natural Resources' tab is selected, leading to 'Water Resources' and then 'Master Well Owners Network'. A search bar is visible in the top right. The main content area features a photo of people at a water quality event and a sidebar with 'Spotlight' and 'Upcoming Events' sections.




**Water Tips and Facts**  
 The average American uses about 90 gallons of water per day. The average European uses 53 gallons per day, and the average sub-Saharan citizen uses 3-5 gallons.

- Home
- Virginia Household Water Quality Program
- Virginia Master Well Owner Network
- Resources
- Upcoming Events
- Contact Us


### Private Water Supply Protection in Virginia

#### Virginia Master Well Owner Network

 If you have a private water source, such as a well, spring or cistern, YOU are responsible for the safety of your family's water quality and the maintenance of your supply system! The Virginia Master Well Owner Network is a group of trained, dedicated Virginia Cooperative Extension educator/agents and volunteers who have completed training about protecting and maintaining private water systems such as wells, springs and cisterns, and about water conservation, testing and treatment. With members across the state, this network is designed to provide practical information to private water system owners like you. If this sounds interesting to you, consider becoming part of the network to help others learn how to protect their water supplies!

[Download Brochure](#)

#### Virginia Household Water Quality Program

 The Virginia Household Water Quality Program provides practical information to homeowners about maintaining and protecting private water systems such as wells, spring and cisterns. People who rely on public water systems for drinking water have professionals routinely testing their water quality to ensure it meets federal drinking water standards, but private water system owners must take care of this monitoring themselves. Through this program, drinking water clinics are offered in 10-16 counties per year, which provide affordable water testing, interpretation of test results and general information about maintenance of private water systems and dealing with water problems. Click here to find out [how you can participate!](#)

[Drinking Water Clinics](#)

If you rely on a well, spring or cistern for your water supply, you are responsible for the safety of your family's water! This means you should take steps toward maintaining and protecting your well and regularly test your water.

College of Engineering    College of Agriculture and Life Sciences    Virginia Cooperative Extension  
 Equal Opportunity    Principles of Community    Privacy Statement    Acceptable Use Policy    Accessibility

### Master Well Owner Network

We are a network of trained volunteers dedicated to promoting the proper construction and maintenance of private water systems in Pennsylvania and throughout the Mid-Atlantic Region.

To date, over 400 residents in 61 counties throughout Pennsylvania have been trained as Master Well Owner Volunteers. These volunteers have provided assistance to over 25,000 homeowners with private water systems.

[Become part of the Pennsylvania Master Well Owner Network.](#)

<http://extension.psu.edu/natural-resources/water/mwon>



# Future...

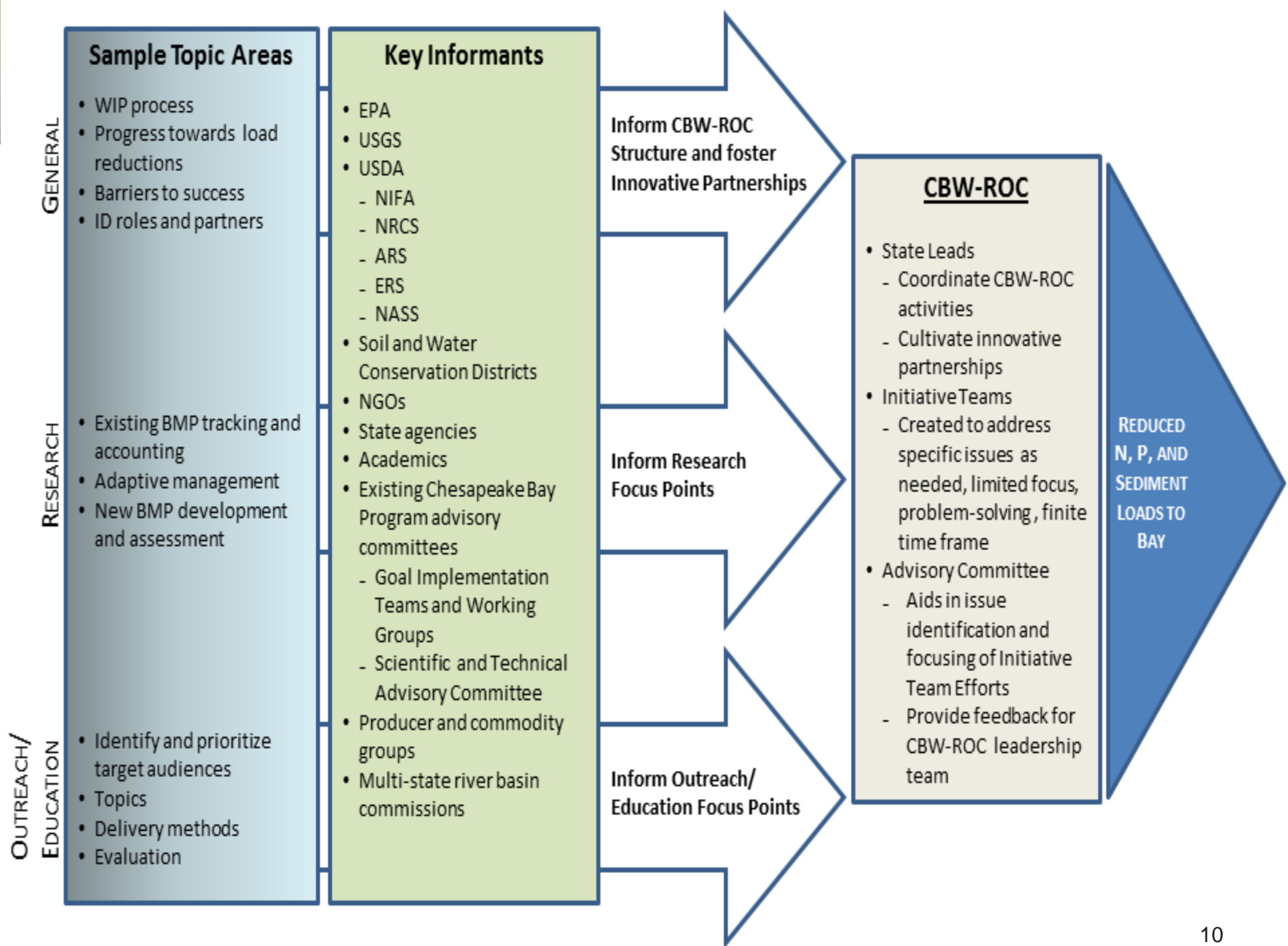
- USDA-NIFA has ended funding for the National Water Program
- MAWP is currently using conducting a needs assessment for a potential MAWP follow-on...

## Chesapeake Bay Watershed Research and Outreach Consortium **CBW-ROC**



### Objectives:

1. Identify and prioritize research, education and outreach needs related to land-based, nonpoint source pollution sectors (agriculture and stormwater).
2. Develop an innovative, structured, collaborative partnership that positions CBW-ROC participants to secure resources to address identified needs



[Capacity Building](#)

[Policy Support](#)

[Industry Change](#)

[Public Education](#)

## MID-ATLANTIC WATER PROGRAM

A coalition of universities applying science to improve water quality in Maryland, Virginia, West Virginia, Pennsylvania, Delaware, and the District of Columbia.

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