



Agricultural Environmental Management

2004-05
Annual Report



Cultivating Environmental Stewardship
in New York State

George E. Pataki, Governor

Nathan L. Rudgers, Commissioner
NYS Department of Agriculture & Markets

Dennis Hill, Chairman
NYS Soil & Water Conservation Committee



Agricultural Environmental Management

AEM Framework



Composting at Adam's Hen House in Ontario County protects water quality while providing a value-added product.

Core Concepts

AEM assists farmers in their environmental stewardship efforts and protects the quality of their farms' natural resources, which are the foundation of their long-term economic viability.

- Voluntary, incentive-based
- Customized farm by farm
- Helps reduce farmer liability
- Addresses watershed needs
- Locally led and coordinated
- Provides a confidential method of planning and assessment
- Increases farmer awareness of the potential impact of farm activities on the environment
- Promotes the multiple environmental benefits of agriculture to the community

Tiered Approach

Farmers work with a team of local AEM resource professionals to develop comprehensive, site specific farm plans using a five-tiered process:

- Tier 1 – Inventory current activities, future plans and potential environmental concerns.
- Tier 2 – Document current land stewardship; assess and prioritize areas of concern.
- Tier 3 – Develop a conservation plan addressing concerns and opportunities tailored to the goals of the farm.
- Tier 4 – Implement the plan utilizing available financial, educational and technical assistance.
- Tier 5 – Conduct evaluations to ensure the protection of the environment and farm viability.

Cover Layout

Top: Farm view of Canandaigua Lake in Ontario County, NYS SWCC.

Left: Dairy Cows at Borden's Orchards in Washington County, Pride of New York Program.

Middle: Jim Chambers harvesting grapes in Yates County, Keuka Lake Watershed AEM Program.

Right: Contour strip farming on Bay's Farm in Ontario County, SWCC.

Farming the Way to Cleaner Waters

AEM's effectiveness starts at the local level by protecting critical natural resources while preserving the sustainability of one of the state's most important industries. AEM is good business on the farm, as well as a vehicle for meeting local conservation priorities and achieving New York State's water quality objectives.

The AEM program is making great strides addressing New York's remaining water quality challenges from nonpoint source (NPS) pollution. NPS pollution refers to contaminants from both agricultural and non-agricultural land activities that are washed into bodies of water during rainfall and snowmelt.

The State's NPS Management Program, a partnership led by the NYS Department of Environmental Conservation (DEC), has identified several goals that include the development of watershed management strategies to restore use in waters precluded, impaired or stressed by NPS pollution. The AEM activities outlined in this report have helped agriculture make significant contributions toward achieving these goals.

Since signed into law in 2000, the AEM program has grown to include over 9,000 farms in 54 counties and 269 small watersheds. More than 5,500 farms have completed Tier 2 Assessments, and over 1,500 have conducted Tier 3 Planning. Cost-share assistance has been awarded to over 1,500 farms for Tier 4 Implementation of Best Management Practices (BMPs) through the State Agricultural NPS Abatement and Control Grant Program. Collectively these farms have received more than \$45 million to install practices that reduce NPS pollution. As the umbrella program for all of New York's agricultural conservation efforts, AEM also lays the groundwork for participation in other state, federal and locally administered programs.

As the program expands and participation grows, the AEM partnership continues to explore ways to advance program objectives. In 2004, the NYS Soil & Water Conservation Committee (SWCC) began a new chapter in AEM by creating the AEM Base Program. This new initiative will take AEM to the next level and serve as the foundation for the continued support of New York agriculture, while increasing AEM's effectiveness in meeting federal, state and local water quality goals.



Well managed farms protect the water quality of Canandaigua Lake, which provides drinking water for over 50,000 people.

Preserving Prime Farmland

While protecting prime farmland from urban sprawl is a priority in some areas, long-term planning to prevent the incremental conversion of prime soils to single lot residential and commercial development is also critical to the viability of New York agriculture. The cumulative effect of partial sub-division of farmland often results in the loss of prime agricultural soils, increased neighbor complaints and eventually the total conversion of the original parcels.

A new AEM Tier 2 Farm Continuity Planning Worksheet is being developed to help farmers identify and reduce potential environmental, economic and community related impacts that partial sub-divisions could have on an active farm. For example, the proper siting of building lots on hillsides, in the woods, off ridge lines and road frontages, could minimize both the loss of prime agricultural soils and the likelihood of neighbor conflicts that can ultimately threaten the viability of the farming operation. In addition to protecting prime agricultural soils and the rural character of the landscape, this new AEM assessment tool will assist landowners in making better informed decisions for their agricultural operation.

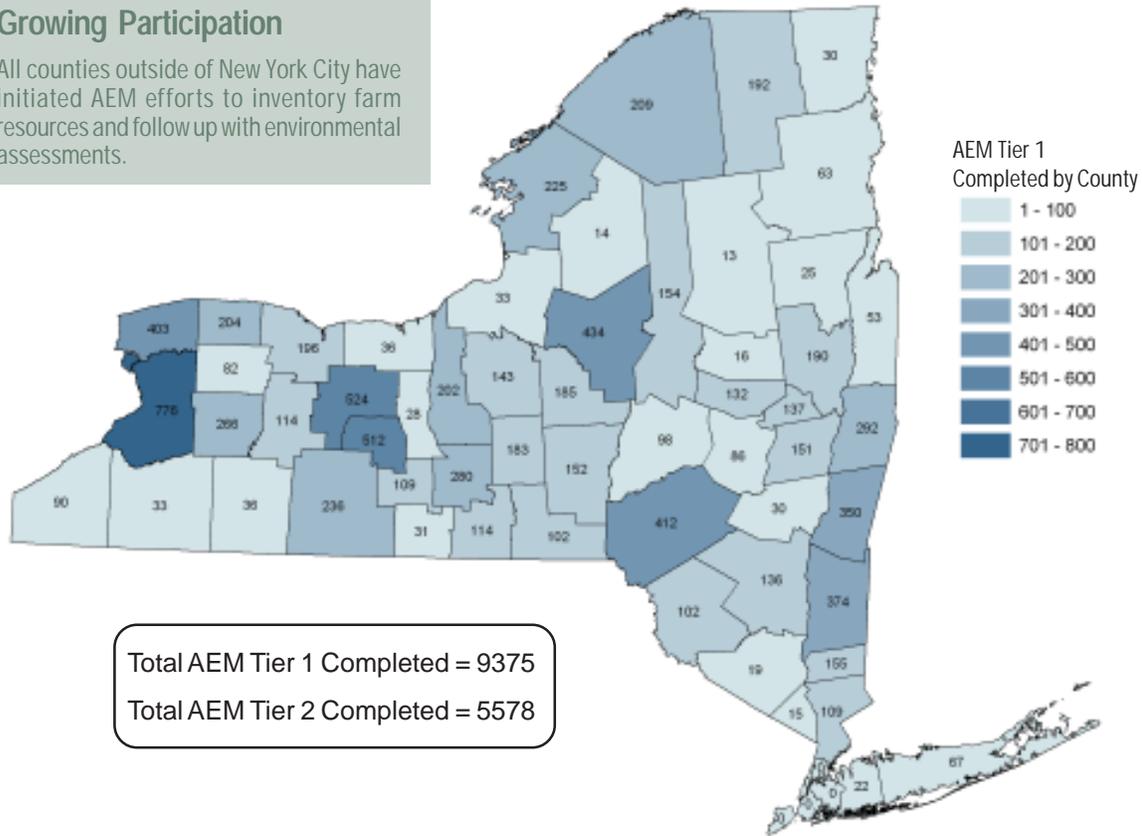
Ontario SWCC

Barb Silvestri, NYS SWCC

AEM Growing Statewide

Growing Participation

All counties outside of New York City have initiated AEM efforts to inventory farm resources and follow up with environmental assessments.



AEM Tier information derived from SWCD Annual Reports

Accelerating Local Efforts



New AEM worksheets are engaging more of NY's diverse agricultural industries including vegetable operations. Pictured are farmers harvesting carrots at Schoharie Valley Farms in Schoharie County.

With AEM participation exceeding 25 percent of the state's 36,000 farms, the NYS Department of Agriculture and Markets, in partnership with the SWCC and County Soil and Water Conservation Districts (SWCDs), took action to accelerate AEM efforts at the local level. Acknowledging the outstanding accomplishments of New York's unique AEM program, Congress allocated \$750,000 in federal funds, which have been coupled with \$600,000 from the NYS Environmental Protection Fund (EPF) to establish the AEM Base Program. This program provides SWCDs with non-competitive funding to develop and implement five-year strategic plans. In addition to enabling more farms to participate, this initiative will increase conservation planning activities statewide and protect past investments through conservation plan updates and BMP evaluation.

Fifty-four counties outside of New York City are taking advantage of the newly available AEM Base funding to strengthen their local AEM programs. In order to qualify, each county AEM team developed or updated a five-year AEM Strategic Plan. Local AEM teams generally consist of representatives from the County SWCD, CCE, and NRCS. Along with other components, these strategic plans prioritize local natural resource management issues, set forth a communication strategy to effectively reach out to farmers, and establish an evaluation plan to measure success. Each county AEM team is eligible to receive up to \$20,000 to provide technical assistance

to farmers for the completion of Tier 1 Inventories, Tier 2 Assessments, Tier 3A Farm Planning, and Tier 5 Evaluation activities, based on needs identified in their strategic plans. The plans also help identify where local, state and federal resources, including over \$20 million in USDA Farm Bill Conservation Programs, can most effectively be utilized to protect the state's water resources.

In support of this new effort, statewide training and regional workshops were conducted to bolster local AEM partnerships. Planning is underway for additional training and an expanded website to make resources readily available. In addition, new assessment tools have been developed to include more of New York's diverse agricultural industries, such as greenhouse, fruit, vegetable and equine operations. The Agriculture and the Community worksheet has also been revised to help improve neighbor relations and aid farmers in communicating the benefits of well managed farms to the public. Additional funding has been allocated to support the AEM Base Program in 2006.

Pride of New York Program

AEM Focus on Ontario County

A Leading Strategy

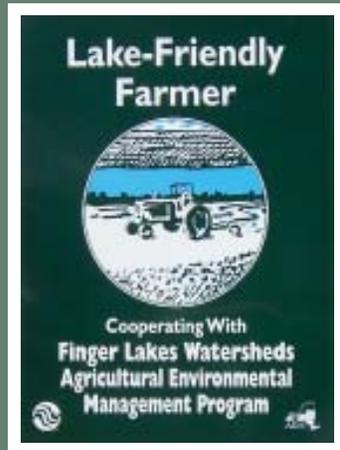


The Ontario County SWCD has utilized the help of three farmer-led Agricultural Advisory Committees to put AEM into action on local farms in the Canandaigua Lake, Flint Creek and Northern Watersheds. The District recognized that farmers are uniquely able to communicate with their peers and demonstrate through their own actions the advantages of participation in the AEM program.

The farmers recruited for the watershed-based Advisory Committees are respected in their field for successful farming practices, leadership in community affairs, and their own personal integrity. Ensuring balanced representation was also critical to establishing the Advisory Committees as credible, trusted entities. These local leaders have quickly become highly effective spokespersons for AEM throughout Ontario County.

The local knowledge that committee members bring to light in making decisions has proven invaluable in assuring maximum impact from available funding. More than \$4 million in state cost-share funding, along with over \$2 million in farmer contribution, has been allocated for the construction of BMPs on 60 farms in Ontario County to protect water quality and enhance the long-term viability of farming operations. "Agricultural profitability must be maintained to enable our farmers to continue to provide benefits to our community, such as cost effective open space, and a scenic landscape that residents and tourists rave about," said Fred Lightfoote, owner of Lightland Farms and Agricultural Advisory Committee (AAC) Chairman for the Northern Watersheds.

In an area where pristine water resources are the foundation of the economy, keeping the public and municipal officials informed of water quality protection progress has been of benefit to the farmers. The Advisory Committees and the Ontario County SWCD have sponsored several tours to publicize AEM projects throughout the county, which allow fellow farmers and the general public to see first hand the improvements being made to the farms.



Lightfoote said, "There seems to be an increased awareness of the numerous benefits that agriculture provides. The continual demand for residential development has led municipalities to look towards agriculture as an environmental and fiscal shock absorber for our communities." These and other issues will continue to be part of the discussions guiding the Ontario County SWCD, along with their Advisory Committees, into the future.

Stryker said, "AEM is an integral component of good business planning. It provides opportunities to increase profitability, while addressing environmental concerns." Ontario County's leading strategy models how New York's AEM program is designed to function, and serves to ensure that future generations will enjoy the splendors of this region.



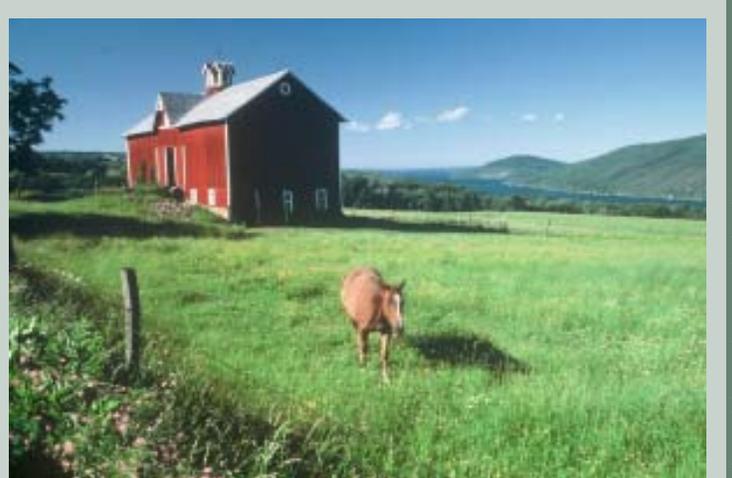
Barb Silvestri, NYS SWCC

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- Fred Lightfoote, Lightland Farms
Northern Watersheds AAC Chairman

"Lake Friendly Farmer" signs also help to clarify agriculture's role in the environment. Farms that meet or exceed criteria established by the AAC receive the prominent signs, which help raise awareness of the AEM program in Ontario and Yates Counties. Bob Stryker, Ontario County SWCD Field Technician said, "Direct market enterprises such as area wineries, vegetable and meat producers have reported positive feedback from customers as a result of the display of their signs."

Several challenges remain for the Ontario County AEM program. High lakeshore residential property values and tourism-based business interests create great pressures on farmers to maintain high standards of environmental practice. Farmers also face considerable development pressure. Along with new development come new residents that may be unfamiliar with the smells, sounds, and activities that go hand in hand with living in an agricultural community.



Canandaigua Lake Watershed Task Force

Scenic agricultural views like this one of Canandaigua Lake in Ontario County are worth protecting.

Under the AEM Umbrella

EFARM Supporting Nutrient Management

The State's new Environmental Farm Assistance and Resource Management (EFARM) Program has awarded nearly \$500,000 in grants to help manage farm nutrients in order to protect the environment. EFARM, administered by the NYS Environmental Facilities Corporation and the Department of Agriculture and Markets, provides reimbursement grants to farm businesses classified by DEC as Concentrated Animal Feeding Operations (CAFOs), to help with the costs of preparing and updating a Comprehensive Nutrient Management Plan (CNMP). CAFOs are required by State regulations to develop and implement CNMPs, which help farmers properly manage liquid and solid waste, as well as nutrients.

Under EFARM, up to 90% of out-of-pocket expenditures for CNMP development, not exceeding \$8,000, are reimbursed for costs incurred between July 1999 and June 2006. Reimbursement of up to 90% of actual expenses, not exceeding \$2,000 annually, is available for CNMP updates for the 2005-09 cropping seasons. Farms are responsible for the remaining development and update costs. Implementation of these plans enables farmers to effectively manage nutrients and other potential pollutants in order to protect the environment and the quality of life in their communities.

Facilitating Pro-active Planning



Certified AEM Planner, Bob Stryker (left), from Ontario County SWCD reviews BMP alternatives with Fred Lightfoote of Lightland Farms, a fifth generation dairy.

The AEM Planner Certification Program facilitates the development of CNMPs as a critical step that determines all subsequent land conservation decisions. Since 1999, the SWCC, in cooperation with the USDA Natural Resources Conservation Service (NRCS), Cornell Cooperative Extension (CCE), and the Northeast Region Certified Crop Advisor Program, has conducted the AEM Planner Certification Program. This process enables farmers to work with local AEM resource professionals to develop and implement CNMPs needed to meet State permit requirements for CAFOs. AEM Planners work with livestock farmers to develop site specific plans that strategically incorporate BMPs into their operations, protect water quality and comply with regulatory requirements, while also meeting business objectives.

The extensive training and certification process, coupled with continuing education requirements, assures farmers, environmental regulators and the public of planners' quality work in addressing environmental concerns on the farm. Currently there are 38 Certified and 20 Conditionally Certified AEM Planners. These planners have assisted all 137 permitted large CAFOs, and nearly 90% of the 479 permitted medium CAFOs, in completing their CNMPs.

Broadening Opportunities

The NYS Conservation Reserve Enhancement Program (NYS CREP), announced in 2003, has broadened conservation opportunities for farmers in priority watersheds statewide. Well-designed and managed conservation buffers can address a variety of environmental, social and economic issues simultaneously. These practices often complement other projects underway to provide a higher level of watershed protection.

NYS CREP is providing \$62 million in incentives for farmers to install streamside buffers and other conservation practices that protect water quality and enhance wildlife habitat on 40,000 acres of environmentally sensitive land. Currently there are 2,000 acres in active NYS CREP contracts involving over 100 landowners statewide. Partnerships at the state and federal levels made it possible to establish this program in New York and the strong teamwork between local SWCDs, NRCS and the Farm Service Agency will ensure long-term success of the program.



A restored wetland area with buffer protection from grazing livestock.

Jeff Vanuga, USDA NRCS

Expanding into Air & Energy

AEM's benefits reach beyond meeting state water quality goals. During the past several years, AEM has developed into a comprehensive program that addresses a host of issues including those affecting soils, water, air, plants and animals. For example, as global warming and greenhouse gases continue to be a hot topic, the AEM Program is seeking to identify opportunities for farmers to develop carbon offset strategies.

Since soil and forests are capable of storing, or "sequestering," carbon for long periods of time, they prevent the release of the greenhouse gas carbon dioxide into the atmosphere. Using certain management practices and techniques, agricultural and forestry operations can enhance this process to increase the amount of carbon stored.

In April 2003, Governor Pataki initiated a regional effort to develop a flexible, market-based program to reduce carbon dioxide emissions. The development of carbon offset strategies will include a cap-and-trade program for greenhouse gases. This would allow energy industries that exceed a given emission limit of greenhouse gases to purchase credits from entities that have documented and registered reductions.

The NRCS online Voluntary Reporting of Greenhouse Gases-Carbon Management Evaluation Tool (COMET-VR) provides farmers with a forum to report the effectiveness of various methods for agricultural soil carbon sequestration.

AEM: It's Good Business



High Ranking Stewardship

Matt and Nancy Beckerink's careful attention to environmental stewardship has helped their Dutch Road Dairy to become a nationally-ranked milk producing operation. Winners of the 2004 Environmental Stewardship Award, the Beckerink Family of Chautauqua County were one of the first farm families in the state to incorporate AEM into their agricultural operation. The award, presented by NYS Agriculture Commissioner Nathan L. Rudgers at the annual Empire Farm Days in Seneca Falls, recognized the family's exceptional efforts in implementing conservation techniques that protect the land and water, while allowing the dairy operation to grow and prosper.



Using recycled sand for bedding saves the Beckerink family over \$35,000 in annual bedding costs.

Located near Findley Lake, the Beckerinks have been working with the Chautauqua County SWCD to incorporate AEM practices and new technologies, which protect the lake's water quality and maximize their farm's efficiency. As a result, in the past ten years their operation has doubled in size, with plans for further expansion. The farm ships over 13 million pounds of milk per year and is nationally ranked in the top five percent for overall milk production and production per cow. The farm is also ranked in New York's top ten percent for profitability according to Cornell's dairy farm business summary.

David Wilson, Chautauqua County SWCD Manager said, "The Beckerinks are very environmentally aware and want to do everything right from the get go. They have developed a customized AEM Plan and installed several conservation practices addressing integrated crop and pest management, nutrient management, silage leachate, and barnyard runoff." Most recently, the Beckerinks installed a manure treatment system that separates and composts solids, incorporates an aeration system to help control odor, and creates bedding for their herd. They attribute their exceptional herd health and production in part to the use of this type of bedding. In addition, they reported a \$35,000 to \$40,000 savings in annual bedding costs.

Matthew and Nancy are both graduates of Cornell University. Matthew is a community leader actively involved in efforts such as the Chautauqua County Advocates for Agriculture, CCE Agricultural Committee, French Creek Agricultural Working Group and Findley Lake Watershed Management Team. "The Beckerink family is an excellent example of the type of innovative young farmers working here in New York State," stated Commissioner Rudgers. "This young couple understands the importance of environmental stewardship and has seen the positive effects of good management practices in the overall productivity and profitability of their farm." Rudgers also gave special recognition to the Chautauqua County SWCD for its role in assisting farmers in their efforts to keep agriculture an economically sound industry, while conserving and protecting New York's precious natural resources for generations to come. The annual award is sponsored by the NYS Department of Agriculture and Markets, American Agriculturist Magazine and the Empire State Potato Growers.



Beef cows at Gordon Farms in Albany County.

Approximately 25% (7.6 million acres) of New York State's land mass is devoted to agriculture.

The state is home to 18,500 livestock farms, 650,000 dairy cows, 80,000 beef cows, 84,000 hogs and 75,000 sheep.

Partners

American Farmland Trust
Citizens Campaign for the Environment
Cornell Cooperative Extension (CCE)
Cornell Pro-Dairy Program
Cornell University
County Soil & Water Conservation Districts
Environmental Facilities Corporation
Finger Lakes-Lake Ontario Watershed Protection Alliance
Keuka Lake Watershed Protection Program
Long Island AEM Stewardship Committee
Lower Hudson Coalition of Conservation Districts
Northeast Certified Crop Advisor Program
NY Association of Conservation Districts
NYC Watershed Agricultural Program
NY Farm Bureau
NY Rural Water Association
NYS Agri-business Association
NYS Agricultural Agents Association of CCE
NYS Cattle Health Assurance Program
NYS Conservation District Employees' Association
NYS Department of Agriculture & Markets
NYS Department of Environmental Conservation
NYS Department of Health
NYS Department of State
NYS Energy Research & Development Authority
NYS Horse Health Assurance Program
NYS Integrated Pest Management Program
NYS Soil & Water Conservation Committee
NYS Water Resources Institute
Skaneateles Lake Watershed Agricultural Program
SUNY College of Environmental Science & Forestry
Upper Susquehanna Coalition
US Environmental Protection Agency
US Fish & Wildlife Service
USDA Farm Service Agency
USDA Natural Resources Conservation Service
Wappingers Creek Watershed Program



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