



Agricultural Environmental Management

2003-04
Annual Report



A Watershed View in New York State

George E. Pataki, Governor

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

Dennis Hill, Chair
NYS Soil & Water Conservation Committee



Agricultural Environmental Management

AEM Framework



The farmer led AEM team at work on a plan in St. Lawrence County.

Core Concepts

- Voluntary, incentive-based
- Customized farm by farm
- Reduces 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** – Survey current activities, future plans and potential environmental concerns.
- Tier 2** – Document current land stewardship; identify and prioritize areas of concern.
- Tier 3** – Develop a conservation plan addressing areas of concern 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:

Left: Views like this one in Schoharie County are worth protecting. - Michele Moore, SWCC

Top: Overlooking the watershed are OLVAP partners Steve Lorraine, Madison County SWCD Manager and Jo-Anne Faulkner, Oneida County SWCD Water Quality Specialist. Jo-Anne also serves as the OLVAP Resource Specialist, a position funded by the CNY Regional Planning Board.

Middle: Madison County's muck soil's are uniquely suited to vegetable crops.

Bottom: Dairy farms occupy a majority of the agricultural land in the Oneida Lake Watershed. - Barb Silvestri, SWCC

Working At Its Best

Team work and cooperation between AEM partners catapulted New York State into the forefront of national conservation efforts and continue to expand opportunities for further growth. Advancing this achievement, County Soil & Water Conservation Districts (SWCDs), with partner agencies and groups including municipalities, farmers and community members, are joining forces regionally to protect water quality using a multifaceted approach. Two successful watershed-wide efforts that illustrate AEM working at its best in New York are featured in this report.

New York's remaining water quality challenges are due to nonpoint source (NPS) pollution, which refers to contaminants that wash from the land into waterbodies when it rains.

Polluted runoff results from land activities such as road salt, fertilizer and pesticide applications, manure spreading, timber harvesting and construction. Individually, these sources of pollution may not be noticeable, but added together, they can have a significant impact on water quality. Since polluted runoff comes from several sources, including agriculture, a comprehensive approach is necessary to reduce its impact.

The goal of the AEM program is to support New York's diverse agricultural community in its efforts to reduce NPS pollution, while enhancing farm viability. Local AEM teams provide farmers with a process to analyze the potential impact of their operations and a framework for making the necessary adjustments. Since 1994, the State's Agricultural NPS Grant Program, through the State Department of Agriculture and Markets, and Soil and Water Conservation Committee (SWCC) has allocated cost-share funds to support farmers in their efforts to protect water quality and natural resources that are in the public's interest.



Putting the wind to work in Monroe County

Award Winning Agriculture



"Robert and James Chambers, along with their families, have done an outstanding job utilizing conservation techniques that help protect their land, while allowing their dairy operation to grow."

- Nathan L. Rudgers
State Agriculture Commissioner

The 2003 Environmental Stewardship Award was presented to Chambers Valley Farm, one of the first in Washington County to incorporate AEM into its farm management.

With assistance from the Washington County SWCD, state and federal cost-share funds have been utilized to implement conservation practices on their 600-cow dairy.

The SWCD was also recognized for its role assisting farmers in efforts to keep agriculture an environmentally sound industry. The award is sponsored by the State Department of Agriculture & Markets, American Agriculturist Magazine and Empire State Potato Growers.

*"If you don't take care of the soil,
it won't take care of you."*
- Maurice Kelsey,
Madison County Dairy Farmer & AAC Chair

AEM at Work in Watersheds

Beyond Boundaries

A wide-range of partners in the Oneida Lake Watershed are looking beyond county and agency boundaries as they work together to reduce water pollution from agricultural and non-agricultural land uses. The 870,000-acre watershed includes 69 municipalities in five counties. Recognizing that watershed protection can only be achieved if regional stakeholders adopt a holistic approach, the Oneida Lake Watershed Advisory Council developed a strategy to manage watershed resources.

Oneida Lake is the largest water body located entirely within New York State, providing anglers with more fish per acre than any other lake in the northeast. To effectively conserve and protect the Lake and its surrounding natural resources, factors that influence water quality, such as geology, soil types and land use, are being viewed as an integrated system. Since nearly 30% of the land in the watershed is used for agricultural production, the Oneida Lake Watershed Agricultural Project (OLWAP) was created.

Locally led by the Soil and Water Conservation Districts of Madison, Oneida, Onondaga and Oswego Counties, the project's mission is to determine the impact of agricultural operations by completing AEM assessments on all watershed farms, and facilitate funding for water quality improvement projects. A multi-phased approach has been used to accomplish these goals:



"The agricultural community has always upheld good stewardship of the land, and the voluntary, confidential and flexible nature of AEM encourages continued conservation efforts amidst ever increasing costs."

- Kevin Lewis

Conservation Districts Employees' Association President,
Oneida SWCD Executive Director & OLWAP Chair

Anne Sallman, CNY Regional Planning & Development Board

These before and after photos from Onondaga County illustrate the importance of installing practices that protect water quality.



Before installing the BMP, untreated silage leachate from this bunk silo was a potential runoff risk to surface and groundwater.



After installing this Silage Leachate Collection System, aquatic habitat in surrounding waters are protected from polluted runoff.

Phase 1:

- Vital outreach and education efforts, such as workshops and newsletters, spread the word about AEM to watershed farmers.
- An Agricultural Advisory Committee, comprised of eight farmers representing different types and sizes of farms, was established to direct the project and communicate goals to farmers in their communities. This proved to be their most important outreach element.

Phase 2:

- Each SWCD is working to conduct AEM Tier 1 and Tier 2 Assessments with farmers in its county. Approximately 200 farmers, over two thirds in the watershed, have completed this process.
- A unique standardized system was created to select priority farms based on resource concerns utilizing the collected AEM data. Committee members are particularly proud of the fact that farm prioritization is not entirely based upon the size of the operation, but rather upon the resource concerns identified by the AEM process.
- Priority farms are included in proposals for state and federal funding. To date, 98 projects have been funded including the development of Comprehensive Nutrient Management Plans (CNMPs), grazing systems, and Best Management Practice (BMP) installation.

Over \$1.1 million of state and federal cost-share funds have been awarded to watershed farmers who are making a personal commitment to protecting the environment. A local match of \$488,000 has been secured from participating landowners and services provided by SWCDs.

OLWAP serves as a prime example of a successful watershed-wide AEM program. These efforts, along with ongoing outreach to keep the public engaged in lake and watershed issues, will ensure long-term protection of this great resource for generations to come.

OLWAP

AEM at Work in Watersheds

"Farmers appreciate that they are the decision makers along every step of the AEM process."

- Dennis Hill

Maple Hill Farms & SWCC Chair

Joining Forces

The Lake Champlain Basin stretches from the High Peaks of the Adirondacks to the Green Mountains of Vermont and the Province of Quebec. Lake Champlain is renowned as one of the nation's most beautiful and valued resources, drawing millions of visitors each year for its natural and historic features. Though its watershed has abundant natural resources, the Lake has been impacted by pollution from surrounding land uses including development, forestry and agriculture.

New York State contains 37% of the Champlain watershed, which includes 57 municipalities in five counties. In order to most effectively achieve common water quality goals, the Champlain Watershed Improvement Coalition of New York (CWICNY) was created in 2002 to join forces of the Soil & Water Conservation Districts (SWCDs) within the New York portion of the Basin.

CWICNY is comprised of Clinton, Essex, Franklin, Warren and Washington County SWCDs, County Water Quality Coordinating Committees and the Lake Champlain-Lake George Regional Planning Board. Chaired by Clinton County SWCD Manager Steve Mahoney, the Coalition works to prioritize water quality concerns and increase resources to implement water quality projects in the watershed.

In many parts of the Lake, water quality is being impaired by phosphorus inputs from point sources, such as municipal wastewater treatment systems, and nonpoint sources including urban runoff and agricultural land use. As a result, New York and Vermont have developed a Total Maximum Daily Load (TMDL) for phosphorus, which is an estimate of the amount of pollution that a waterbody can receive without impairing its vital uses. Lake Champlain is the second major watershed in the State to develop a TMDL for phosphorus to help achieve reduction goals.

- Tier 1 and Tier 2 Assessments have been conducted in 37 sub-basins of the Lake.
- This data is used in Tier 3 Planning, involving the development of farm level CNMPs.
- The farm plan lays out a prescription for Tier 4 Implementation of BMPs such as agricultural waste systems, barnyard runoff management projects and short duration grazing.

Ongoing Tier 5 Evaluations measure the effectiveness of AEM at both the farm and watershed level.



With assistance from Clinton County SWCD Manager Steve Mahoney, (left), Willie Giroux, (right), of Giroux Poultry, Inc. utilized State cost-share funds to install this composting facility.

Composting transforms poultry waste into a valuable fertilizer product that is applied on farms outside the watershed, reducing the amount of nutrients that could have potentially entered the nearby lake.

The State Soil and Water Conservation Committee has the responsibility of evaluating BMPs in the CWICNY counties. Utilizing geographic information, phosphorus load reductions from BMPs can be estimated and used to target additional technical and financial resources in priority areas. New York State has supported these AEM efforts by dedicating over \$3.5 million in cost-share funds to farmers in this region.

In addition to their work with farmers, CWICNY supports communities in their efforts to minimize phosphorous loading from sources including stormwater runoff from paved areas, failing septic systems and eroding streambanks. Members also sponsor the Adirondack Waterfest, spreading the word about water quality to a wide audience annually.

A leading model of how NY's AEM program is optimally designed to function, CWICNY's partnership with farmers and communities serves to ensure that future generations will enjoy the splendors of the Lake Champlain region.



While protecting natural resources and open space, agricultural land use provides multiple environmental benefits to the community.

Advancing Achievement

Opportunities Expand

The AEM partnership of local, state and federal agencies, agricultural and environmental groups, private sector businesses, and farmers continually work to expand the program to provide farmers with new opportunities. For example:

- New York and USDA signed a new statewide Conservation Reserve Enhancement Program agreement, providing \$62 million in incentives for farmers to install practices that protect water quality on 40,000 acres of environmentally sensitive land.

Commissioner Rudgers was among 55 conservation officials attending the AEM tour including Voting and Advisory Members of the State Committee, industry partners, and governmental representatives.



Emily Svenson, NYS SWCC



SWCC Chair Dennis Hill, U.S. Secretary of Agriculture Ann Veneman, and State Agriculture Commissioner Nathan L. Rudgers, sign the 2003 CREP agreement.

Barb Silvestri, NYS SWCC

- AEM participation increases as new assessment tools are tailored to the needs of all types and sizes of agriculture including equine, greenhouse, fruit, and vegetable operations. New worksheets address issues including livestock odor and process wash water.
- Local AEM teams grow as ongoing Comprehensive Nutrient Management Plan (CNMP) training certifies public and private-sector AEM Planners. Additional need for private consultants resulted from the 2002 Farm Bill's increased funding for federal conservation programs.
- Substantial progress is being made by AEM Certified Planners and Concentrated Animal Feeding Operations (CAFOs) in the development of CNMPs to meet state and federal requirements; 98% of large-sized CAFOs with over 1,000 animals, and 76% of medium-sized CAFOs with 200 - 699 animals, have completed CNMPs.
- A new protocol is available to address agriculture related odor issues at the local level.
- Federal funds were awarded for the development of local AEM Strategic Plans and non-competitive funds to accelerate on-farm assessments.
- A Long-Term Strategy to guide AEM into the future focuses on evaluation, outreach, education, technical assistance and key research needs. Planning is underway for additional AEM training and expanded website links to new AEM Stewardship Curriculum materials.

Driving Progress

The success of New York's exceptional AEM partnership was highlighted during a conservation tour at the 2003 State Soil and Water Conservation Committee Principals' Meeting. The tour featured efforts of local AEM teams to cultivate environmental stewardship at the farm and community level.

The theme of the event, "Driving Conservation Progress in New York State," was illustrated by four site tours within Central New York's Otisco Lake and Upper Tioughnioga Watersheds:

- Co-Vale Farms demonstrated how AEM protects water quality and helps to manage the dairy's on-farm resources.
- Dairy Development International utilizes an anaerobic digester that generates bio-gas from manure, which can provide electricity to power its 850-cow operation.
- EZ Acres, a 660-cow dairy located within a local aquifer, uses state-of-the art nutrient management techniques to reduce environmental impact, while improving overall farm profitability.
- A development site in Cortlandville represented a model ordinance for erosion and sediment control established by the town and county to address stormwater runoff pollution concerns.

State Agriculture Commissioner Nathan L. Rudgers commended Committee members for their achievements and praised the uniqueness of New York's federal, state and local partnership.



Barb Silvestri, NYS SWCC

AEM at Work in the World



New York's AEM program is achieving widespread success by supporting farmers in their efforts to protect water quality and conserve natural resources. Since signed into law in 2000, AEM has become the umbrella program for agricultural conservation in New York and renowned as a model of voluntary agricultural conservation that meets local, state and national water quality objectives.

In view of the fact that freshwater resources are the lifeblood of Earth's inhabitants, there is increasing global attention on how land use activities, such as agriculture, affect water quality and the steps that can be taken to protect it. In August 2003, the World Congress on Conservation Agriculture highlighted agricultural conservation efforts around the globe. The theme, "Producing in Harmony with Nature," was illustrated by success stories shared by farmers, researchers, government representatives and decision makers from around the world.

The consistent message throughout the event was, "Conservation agriculture works for the environment and it works for farmers." Clearly, that is what New York's AEM program is all about. Looking at the 'big picture,' the success of AEM in New York State and our nation demonstrates its ability to uphold water quality priorities for our world.

Farmers have traditionally worked to conserve natural resources while raising crops and livestock. AEM's incentive-based approach provides a consistent yet flexible method to deliver agricultural programs and services to assist farmers in their continued voluntary stewardship efforts amidst changing environmental requirements and rising costs. To date, over \$39 million in state funds has been committed to AEM, and these dollars have been a catalyst for obtaining additional state and federal dollars, such as USDA funding for Farm Bill Conservation Programs.

New York's local AEM teams including SWCDs, Cornell Cooperative Extension, USDA and industry partners are delivering effective AEM programs at the county and watershed level involving nearly 9,000 farms statewide. Participation is expected to increase steadily over the next few years as the AEM toolbox expands to include more of New York's diverse agricultural sectors and address related issues such as air and energy.

The agricultural community in New York State is doing its part to protect waters from agricultural sources of pollution. However, agriculture is only one of many land uses that affect the health of surface and groundwater. In order to more holistically protect water quality, SWCDs also provide natural resource information and technical support to communities in their efforts to reduce pollution from urban land uses.

As agricultural organizations around the world are working to protect and improve water quality by spreading the message of conservation agriculture, the AEM program is already providing the foundation for New York's success.



Among the first farmers in the State to participate in the AEM program, Michael Pollack Jr. and family of Tompkins County are pictured with their herd in a new concrete barnyard designed to prevent nutrient and pathogen runoff into surface water.

With the help of the Tompkins SWCD, they developed a site-specific farm plan and implemented conservation practices tailored to meet the environmental and financial goals of their 70-cow dairy. Utilizing state and federal funds, the practices called for in their plan are nearly complete, and ongoing evaluations will help keep their farm environmentally sound and profitable.

The Pollack family received the 2002 Environmental Stewardship Award for their outstanding efforts, which benefit the viability of New York agriculture and the environment for generations to come.

"I believe that being proactive with environmental concerns and keeping everything neat and clean on the farm is just good business."

- Michael Pollack Jr.
Dairy Farmer, Tompkins County

Partners

American Farmland Trust
Citizens Campaign for the Environment
Cornell Cooperative Extension
Cornell Pro-Dairy Program
Cornell University
County Soil & Water Conservation Districts
Environmental Facilities Corporation
Keuka Lake Watershed Protection Program
Long Island AEM Stewardship Committee
Northeast Certified Crop Advisor Program
NY Association of Conservation Districts
NYC Watershed Agricultural Program
NY Farm Bureau
NY Rural Water Association
NYS Agricultural Agents Association of Cornell Cooperative Extension
NYS Conservation District Employees' Association
NYS Department of Agriculture & Markets
NYS Department of Environmental Conservation
NYS Department of Health
NYS Department of State
NYS Soil & Water Conservation Committee
NYS Water Resources Institute
Skaneateles Lake Watershed Agricultural Program
SUNY College of Environmental Science & Forestry
Upper Susquehanna Coalition
US Fish & Wildlife Service
USDA Farm Service Agency
USDA Natural Resources Conservation Service
Wappingers Creek Watershed Program

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