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# NYS Agricultural Environmental Management (AEM)

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## Delaware County AEM Strategic Plan 2007 - 2009



## Background Information

Our AEM Strategy was authored by an SWCD staff member with direction from an AEM working group representing the following agencies:

- Delaware County Soil and Water Conservation District (SWCD)
- Cornell Cooperative Extension of Delaware County (CCE)
- Upper Susquehanna Coalition (USC)
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS)
- Watershed Agricultural Council (WAC)
- Delaware County Department of Watershed Affairs

This strategy has been reviewed by this group for comment and suggestions. The strategy was then reviewed by the Delaware County SWCD Board of Directors for their approval before being submitted to the New York State Department of Agriculture and Markets.

This will be a dynamic strategy that will reflect changes in goals and methods of achieving those goals, as it is reviewed each year.

Our mission and vision is to protect water quality by bringing the voluntary AEM process of farm assessment, planning, implementation and evaluation to farms in Delaware County, while promoting the economic sustainability of farms and the agricultural community within the county.

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## Historical Perspective

In December 2000, the Delaware County Agricultural and Farmland Protection Board published the Delaware County Agricultural and Farmland Protection Plan. It covers the rich history of agriculture in our County, stating that “Farming is the foundation upon which Delaware County is built”. The plan also discusses the challenges that our farmers face and the increasing trend of farms going out of business. From 1982 to 1992, 214 full-time farming operations were lost in the county. To that end, the Farmland Protection Plan emphasized the importance of “providing a business climate in Delaware County that works *with*, not against, farm businesses”. The executive overview asserts that farmers need to be made aware of economic incentive programs that will help reduce the cost of farming, so that we can keep our farms in business as agriculture is a “critical component of Delaware County’s economic well-being”.

This strategy supports the efforts of the Farmland Protection Plan and other county efforts by bringing the state-funded AEM Program to our farmers. The AEM Program will aid in our assessment and planning, with the anticipation that we can secure future funding for implementation of water quality protection practices that also help to keep our farms economically sustainable and active, for the well-being of the farming community and all residents of Delaware County.

### The Water Quality Coordinating Committee (WQCC)

The Water Quality Coordinating Committee is an ad hoc committee of various agencies with the lead agency being the SWCD. Other county agencies on the committee include CCE, WAC, the Planning Department, USDA/NRCS, the Farm Service Agency (FSA), the Department of Watershed Affairs, NYS Department of Environmental Conservation (DEC), the NYC Department of Environmental Protection (DEP) and the NYS Department of Health (DOH). The Water Quality Coordinating Committee is charged by the County Board of Supervisors to coordinate the goals and efforts of these groups to effectively protect water quality in the county. The Committees’ mission is “*to protect and improve the quality of water originating in or passing through Delaware County*”. Its goals include “*to establish a water quality program(s) that emphasizes local roles in identifying and addressing nonpoint source pollution*” and “*to continue the effort of the County Water Quality Coordinating Committee to identify water quality problems, develop new initiatives to overcome water quality problems, seek funding sources to mitigate them and to make better use of existing programs and funds*”.

### Delaware County Action Plan (DCAP)

The DCAP is a county-wide comprehensive strategy developed by the Delaware County Department of Watershed Affairs and partnering agencies to integrate, coordinate and address water quality initiatives in the county. The DCAP addresses water quality issues through several management components including:

- Stormwater and drainage management
- Comprehensive precision farm nutrient management
- Forage management
- Septic systems and septage disposal

- Technical assistance and sub-contracting to WAC by DCAP agencies
- Stream corridor management and rehabilitation

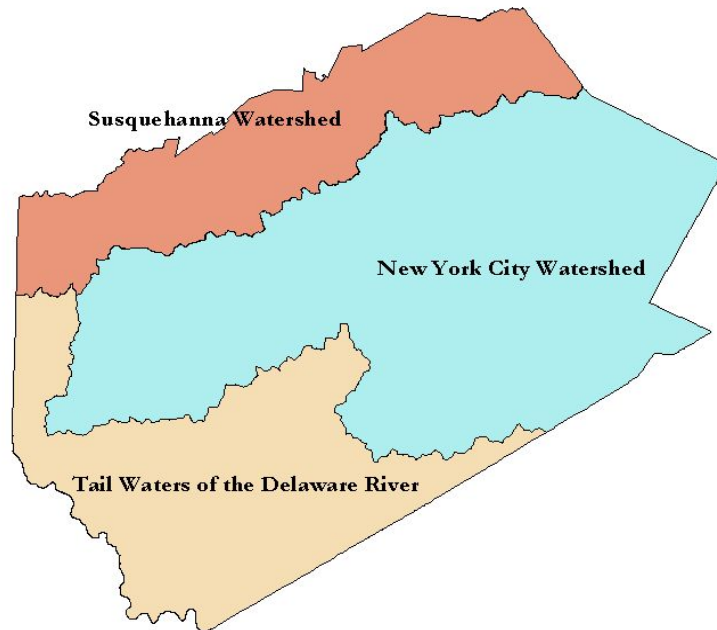
The DCAP's mission is *"to assist the county's residents, farmers, businesses, and communities in meeting water quality parameters and objectives without loss of opportunities for economic vitality."* It is stated within the DCAP revision that *"DCAP is demonstrating that a locally led watershed program is economically frugal and comprehensively effective in protecting water quality"*.

Our county AEM strategy facilitates the goals and missions of the Farmland Protection Plan, the WQCC and the DCAP. Our strategy will be tailored specifically to sound agricultural management and the resulting water quality benefits.

### Planning Unit Strategies

This strategy adopts three planning units that represent the watersheds in this county. They are the **Susquehanna Watershed**, the **New York City Watershed** and the watershed that is comprised of the **tail waters of the Delaware River**. (See Figure 1.)

Figure 1. Delaware County AEM Strategy Planning Units (not to scale)



## Susquehanna Watershed

The Susquehanna Watershed covers roughly 19.5% of Delaware County. Until 2003, there were few water quality initiatives in this watershed due to lack of funding. Most of this work was through the USDA/NRCS cost share programs, such as the Environmental Quality Incentives Program (EQIP). The Susquehanna Watershed Program began to take shape in 2003 through grant money that allowed for the introduction of the AEM process in this watershed.

In the Susquehanna Watershed, approximately 70 Tier 1 and Tier 2 evaluations were completed in the early part of 2003. Since funding was not available for implementation of BMPs, the AEM evaluation was used as a mechanism to inventory the farms for the start up of the Susquehanna Program. The process was also used as a way to introduce farmers to the AEM Program and the Susquehanna Program.

The Susquehanna Watershed Program also works in coordination with the Upper Susquehanna Coalition. This coalition was formed in 1992 as a multi-county approach to address the growing environmental concerns in the Chesapeake Bay and the Susquehanna River watershed.

The Chesapeake Bay Program is a multi-state/federal effort that has been working toward restoring the Chesapeake Bay since 1983. Continued water quality impairments within the Chesapeake Bay, however, led the EPA and the bordering states to the list over 90% of the Bay tidal waters as "impaired" due to low dissolved oxygen levels and other problems related to nutrient (primarily nitrogen and phosphorous) pollution. The Environmental Protection Agency (EPA), as a result of a lawsuit, is required to determine a Total Maximum Daily Load (TMDL) for the Chesapeake Bay in 2011.

The court also stated however, that this regulatory TMDL could be avoided if the Chesapeake Bay Program partners could correct all nutrient and sediment problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove it from the list of impaired water bodies under the Clean Water Act by 2010.

The Chesapeake Bay Program defined the water quality conditions necessary to protect aquatic living resources (through Chesapeake Bay water quality criteria for dissolved oxygen, chlorophyll a, and water clarity). The Program then assigned load reductions for nitrogen, phosphorus, and sediment needed from each tributary basin to achieve the necessary water quality. The Susquehanna River contributes 50% of the fresh water to the Bay.

In 2000, Governor Pataki joined executives from the other Chesapeake Bay Watershed states and the federal government and signed a Memorandum of Understanding to:

- "Work cooperatively to achieve the nutrient and sediment reduction targets that we agree are necessary to achieve the goals of a clean Chesapeake Bay by 2010, thereby allowing the Chesapeake and its tidal tributaries to be removed from the list of impaired waters.
- Provide for an inclusive, open and comprehensive public participation process.
- Collaborate on the development and use of innovative measures such as effluent trading, cooperative implementation mechanisms, and expanded interstate agreements to achieve the necessary reductions."

In New York State, DEC has the lead role in developing the Tributary Strategy to address this issue. The USC will be a key partner in stakeholder outreach, developing a scientific basis for strategy development and strategy implementation.

Based on a Chesapeake Bay Program Watershed Model, New York was given a cap load allocation for nitrogen, phosphorus and sediment. Agriculture was the largest single source identified as having the potential for significant reductions. The USC will integrate our county AEM into a New York Chesapeake Bay Watershed AEM approach that will describe the agricultural component of how New York will address cap load allocations.

#### New York City Watershed

As a result of the Surface Water Treatment Rule of the Safe Drinking Water Act, in 1990, New York City developed draft watershed regulations as an alternative to the EPA's water filtration requirement. The Watershed Agricultural Program (WAP) began in Delaware County in 1992 to assist the NYC DEP in response to these regulations. The New York City watershed comprises 54% of Delaware County. It is part of the Delaware System, which provides roughly 50% of the drinking water source for over 9 million people in New York City. Most of this watershed drains to either the Pepacton or the Cannonsville reservoirs within Delaware County. There is a small portion (roughly 2% of the county) that drains to the Schoharie reservoir in Schoharie County, which is also within the New York City watershed as well.

The WAP is a partnership of several different agencies working together to protect water quality within the watershed. These agencies include the Watershed Agricultural Council, NYC DEP, State Soil and Water Conservation Districts, NRCS, CCE, NYS Department of Agriculture and Markets and the NYS Soil and Water Conservation Committee.

The WAP includes two different programs, the Large Farms Program and the Small Farms Program. The latter was developed in 2000 to address the farms within the watershed that weren't being addressed in the Large Farms Program. The farms in the Small Farms Program are defined as farms earning between \$1,000 and \$10,000 /year in gross agriculture sales with commercial intent. This program uses the Tier 1 and Tier 2 evaluation to determine and prioritize each farm as to which farms need a Tier 3c Whole Farm Plan. They are prioritized based on which farms would have the greatest impact on water quality by following the Whole Farm Plan.

To date, in the Small Farms Program, 217 Tier 1's have been completed and 118 Tier 2's have been completed. 37 Tier 3c Whole Farm Plans have been done and 25 of these have commenced implementation. Of those 25, 10 farms have completed implementation. An Annual Review, as it is called within the program, is equivalent to the Tier 5 Farm Level Review process. These are conducted are once a year on any farm that has started or completed implementation.

In the New York City WAP Large Farms Program, the AEM process is not currently used because the program developed its own assessment tool prior to the development of AEM in New York State. The program uses what is called the Environmental Review Problem Diagnosis (ERPD) to develop a Whole Farm Plan (WFP). From this plan, BMPs are implemented through funding from the WAP. The Large Farms program within WAP will not be covered any further in this strategy as they have their own system already in place and have funding to continue with their assessment and implementation strategy. To reiterate, for the present time and for the purposes of this strategy, when the New York City Watershed is

mentioned henceforth, it will refer only to the Small Farms Program within the WAP, unless otherwise noted.

It is interesting to note that the NYS AEM process was developed to reflect many of the diagnostic tools used by the WAP.

#### The Delaware River (Tail Waters)

The Delaware River tail waters within the county covers roughly 26.5% of the county and covers the region below the Pepacton and Cannonsville reservoirs. There has been some work done in this area of the county through various USDA/NRCS programs, including EQIP and Agricultural Management Assistance (AMA). It is expected that in the near future, at least one farm will be enrolling in the Conservation Reserve Program (CRP).

## Agricultural Statistics

<i>Watershed</i>	<i>Estimated Number of Active Farms</i>
<i>Susquehanna</i>	± 140
<i>New York City (large and small farms)</i>	± 250
<i>Delaware River (tail waters)</i>	± 10

It is expected that this table will change and vary as more information becomes available while executing this strategy. Our definition of an *active farm* within these statistics is: any operation that has animals and/or there are farming practice(s) occurring such as cropping, raising animals, etc.

## Resource Information

There are numerous challenges that farmers face in this day and age. Many are happening at a national, even world-wide level, including the rising cost of feed and fuel and the fluctuating price of milk. However, closer to home, one major challenge is the pressure of residential development in the county. Due to the increase of second-home owners, the majority of whom are from the New York City area, the value of land and real estate has increased dramatically over the past few years. Many farms have gone out of business because it is more economical to sell the farm rather than struggle with increasing taxes, falling milk prices and the uncertainty of who will take over the farm. These challenges can sometimes make it difficult for farmers to see the benefit of participating in cost-share or incentive-based programs.

The mission of the Delaware County Agricultural and Farmland Protection Plan is "to protect Delaware County farmland and natural resources, preserve its viable farmland, and enhance the stability and profitability of agriculture in this county so that current and future farm businesses and agribusinesses are able to thrive." AEM is consistent with this mission by allowing farmers to voluntarily join an environmental program that will help them maintain clean water while not straining them economically.

### Susquehanna Watershed

There is a strong possibility that water quality regulations could impact farmers if Total Maximum Daily Loads (TMDL) are developed for nutrients and sediment. A TMDL is a regulatory load limit for pollutants of special concern.

Farmers in this watershed are very concerned about meeting future regulations, especially in view of the historical lack of funding available to address water quality concerns.

The AEM process will help prioritize BMPs and identify funding needs for Susquehanna Watershed farmers, allowing these businesses to meet nutrient and sediment allocations being created for New York State.

The AEM working group has given priority to the Susquehanna Watershed for AEM non-competitive funding for Tier 1 and Tier 2 assessments, since the NYC Small Farms Program is relatively advanced in the planning and implementation phase of the AEM process.

### New York City Watershed

As mentioned previously, the pressure of residential development and the associated rising value of real estate, presents a challenge to preserving agriculture, especially in this watershed, since it is in somewhat closer proximity to New York City.

Funding for the foreseeable future is not an immediate concern in this watershed, as it is fully funded through the NYC DEP PL-566 funding and other subsidy sources. Contracts for agricultural work in this watershed are negotiated every three to five years and WAP administrators are aware of the potential opportunity to integrate AEM with the Large Farms Program. The Small Farms Program will continue to work in coordination with the AEM strategy.

## Delaware River (Tail Waters)

There are no documented resource concerns at this time in this planning unit.

## Natural Resource Concerns

### Soil Resources

Only about 7% of the soils in the county are considered “prime farmland”. Much of the land is on steep slopes and has shallow depth to bedrock and large surface stones. Fragipans and hardpans are common. Drainage is often limited and compounds an already short growing season with additional soil workability restrictions. As a result, crop yields are typically lower than other areas of New York State and present challenges to our farmers’ competitiveness.

### Soil Loss

As in most of New York State, soil loss is a prime natural resource concern in Delaware County. Steep slopes on much of the agricultural land increase potential for soil loss and present more considerations in crop production and nutrient management planning. As a result, Delaware County farmers have to be more timely, flexible, and creative in their crop production in order to implement crop rotation and nutrient management plans that meet soil and water conservation standards. Additionally, there is only about 7% of the soil in Delaware County classified as “Prime Agricultural Soil” which are well drained, valley floor river flats. With so little prime soil, there is an increased desire to preserve this resource

### Soil Quality

Increasingly, soil quality is recognized as a key factor in crop production in the United States. In Delaware County, farmers are only beginning to understand the role and importance of soil quality. Considering the soil resource restrictions detailed above, it is important that management of soil quality become a routine strategy on Delaware County farms, as our soil resources present many challenges (i.e., greater risk of economic crop failures on our soils as they often have lower yield potentials to begin with). Soil quality management needs to part of the crop rotation and nutrient management planning.

### Forage Production

Due to the above detailed challenges, dairy farms in Delaware County have greater challenges in producing high-yielding, high-quality forage crops, a critical prerequisite to economically and environmentally sustainable farm businesses. They have fewer forage options available to them to begin with, as some crops (such as alfalfa and corn) do not grow well in our soil and climate conditions. Again, as our soils have a lower yield potential and have greater limitations to begin with, there are fewer margins for error in producing high-yielding, high-quality forage crops. When forage quality is below average, dairy farms either lose milk production or have to increase purchased grain imports, or both. This results in decreased

farm profitability and increased soil nutrient loading (when grain purchases are increased). In Delaware County, as throughout the Northeast US, this is a primary nutrient management challenge on dairy farms, and has resulted in accumulations of phosphorus in soil.

## Susquehanna Watershed

New York contains the headwaters of the Susquehanna River, which eventually enters the Chesapeake Bay. The Susquehanna contributes about 50% of the bay's fresh water. The Bay watershed covers more than 64,000 square miles extending over parts of six states: Delaware, Maryland, New York, Pennsylvania, Virginia and West Virginia. It is the largest estuary in the United States and has a rich diversity of productive agriculture operating in close proximity to nearly 17 million residents. Studies in the 1970's concluded that over-enrichment by nutrients and sediment disposition was affecting water quality and the aquatic habitat. Agriculture has been identified as a significant contributor.

The Susquehanna River enters at the "head" of the bay, thus nutrients (primarily nitrogen and phosphorous) and sediments are released in the most closed portion of the bay making them an even more important contributor to the bay's problems, as they are not easily flushed from the bay.

In addition to the concerns regarding the Chesapeake Bay, the Susquehanna River is also a drinking water source for the city of Binghamton. This fact intensifies the need to reduce nutrients and sediment as well as pathogens within our county's Susquehanna Watershed.

## New York City Watershed

From the 1930's to the 1960's the Schoharie, Pepacton and Cannonsville Reservoirs were constructed to provide added drinking water supply for New York City's nine million residents. To protect water quality, activities within these reservoirs' watersheds have been limited by rules and regulations through the city's Department of Environmental Protection. Since the latest and most restrictive regulations went into effect in early 1997, these regulations have profoundly affected many aspects of land use by both local residents and commercial businesses. However, agriculture has been largely exempted from these regulations by the City cooperating with local agencies to create a voluntary program, the Watershed Agricultural Program (WAP), in 1992.

Natural resource concerns within NY City's watershed are similar to those in other watersheds, with strong emphasis on those aspects that could degrade drinking water quality. Without question, *improving and maintaining water quality* is of principal concern.

*Erosion of surface soil* remains a priority issue, due to the connection between sediment entering waterways and its associated load of nutrients, pathogens and resulting water turbidity. *Turbidity* is of special concern in the Schoharie basin due to the pervasive extent of fine-textured soils in that area; once detached, silt and clay particles tend to remain suspended in surface waters for long periods of time.

*Eroding stream banks* are another related issue, resulting from unstable stream channels that are in turn made less stable by added sediment from eroding surface soils.

*Pathogens*, including *Giardia* and *Cryptosporidium* also pose a threat to water quality and are being addressed in the watershed. *Cryptosporidium* and *Giardia* are resistant to water treatment methods such as chlorination, and can cause severe illness when consumed. Education and outreach about the dangers of pathogens not only to herd health but also water quality, is handled primarily through the CCE of Delaware County.

An *excess of phosphorus* entering surface waters is of special concern. When excessive amounts reach water bodies with warm temperatures, such as reservoirs during the summer months, then algae can grow out of control. At some point these algae die off and begin to decompose, which consumes most oxygen from the water. When raw water containing algae is sanitized with chlorine, harmful chemical byproducts form, such as trihalomethanes. In addition, suspended clay particles in turbid water tend to reduce the ability of chlorine treatment to kill pathogens.

#### Delaware River (Tail Waters)

There are no documented natural resource concerns in this planning unit at present.

### Geographic Areas of Concern

Each of the three planning units identified in this strategy are important for water quality planning, assessment and implementation using the AEM strategy. In agreement with the previously mentioned WQCC, DCAP and the Farmland Protection Plan, our strategic goals of improving water quality while maintaining economic sustainability for farms are a priority throughout the entire county, regardless of which watershed they are in.

## AEM Working Group

Our AEM working group includes staff and members of the previously mentioned agencies and organizations. The table below lists in more detail what role(s) each group will play in implementing the strategy. For the most part, each group is aware of their responsibilities in doing so, and in the Susquehanna and New York City watersheds, the stage is already set and work has already begun to achieve the goals of the strategy.

AEM Working Group

Group/ Organization/ Agency	Responsibilities
SWCD	<ul style="list-style-type: none"> <li>• Administer the AEM program through direct interaction with farmers</li> <li>• Secure funding to continue work in the Susquehanna, Schoharie and Delaware River Watersheds</li> <li>• Outreach and education support</li> </ul>
CCE	<ul style="list-style-type: none"> <li>• Lead agency for outreach and education</li> <li>• Economic expertise</li> <li>• Lead the Precision Feed Management Program</li> </ul>
WAC (Small Farms Program)	<ul style="list-style-type: none"> <li>• Will administer the AEM program through direct interaction with farmers</li> <li>• Outreach and education</li> </ul>
USDA/NRCS	<ul style="list-style-type: none"> <li>• Assist the SWCD with implementing the AEM Strategy</li> <li>• Cost-sharing programs for implementation of projects on farms in the Susquehanna, Schoharie and Delaware River Watersheds</li> <li>• Outreach and education</li> </ul>
USC	<ul style="list-style-type: none"> <li>• Help secure and administer grants and other funding for projects that meet the goals of this strategy in the Susquehanna Watershed</li> <li>• Support the county with AEM data base development, including BMP documentation and tracking to ensure full credit for implementation projects in meeting CBP Cap Allocations, within the Susquehanna Watershed planning unit</li> <li>• Outreach and education</li> </ul>
Department of Watershed Affairs	<ul style="list-style-type: none"> <li>• Help secure, administer and coordinate grants and other funding for projects that meet the goals of this strategy</li> <li>• Keep the County Board of Supervisors up-to-date and aware of issues in each of the planning units, as needed</li> </ul>

## Planning Unit Strategies

As mentioned previously, our three planning units are the following three watersheds that are found in the county: the ***Susquehanna Watershed***, the ***New York City Watershed*** and the watershed that comprises the ***tail waters of the Delaware River***.

Within all three watersheds, one strategic goal is to enhance stream corridor management. This would involve performing stream walks and assessment of streams and stream banks during the assessment phase on each farm. Some work has already been done in the New York City watershed along the West Branch of the Delaware River. Excessive streambank erosion, which creates turbidity and contributes to eutrophication in the Cannonsville Reservoir, was documented. It can also degrade fisheries habitat and the overall ecological health of the West Branch. (taken from “West Branch of the Delaware River Stream Corridor Management Plan”, draft) Through the stream walks and assessments, we will be able to evaluate damage and issues within each watershed’s stream and floodplain ecosystem.

### Susquehanna Watershed

In the Susquehanna Watershed, we will continue the AEM process by conducting Tier 1 inventories on farms that are recent additions to our list of farms in the area. From these new Tier 1’s we will determine which farms need to proceed with the AEM process. We will use our Tier 1 information to determine which farms need a Tier 2 assessment. New Tier 2’s in 2007 and 2008 will be completed as well as some Tier 2 updates in 2007. We also plan on completing additional Tier 3A plans for the implementation of Conservation Reserve Enhancement Program (CREP) plans.

Through a three-year Agricultural Nonpoint Source Pollution Abatement and Control Program (ANPSPACP) Round X grant awarded in 2003, we will also be completing 40 Comprehensive Nutrient Management (Tier 3b) Plans. We will also develop a method to prioritize farms for the remaining Tier 3b plans. The first 40 to have a Comprehensive Nutrient Management Plan (CNMP) written for their farm were selected based mostly on level of participation; if they responded with interest in wanting a Tier 2 and a CNMP for their farm, they were selected. Our own long-term goal within this watershed is to write a CNMP for every farm in the Susquehanna Watershed. We do not have a way of prioritizing which farms have a greater need for a CNMP initially (i.e., which would provide the most improvement in water quality if followed). The completion of 7 Tier 3A CREP plans allowed us to apply for and successfully receive funding, of two ANPSPACP grants in Rounds XII and XIII.

A Round XI ANPSPACP Precision Feed Management proposal for five farms in the Susquehanna Basin in Delaware County has been the incubation site for the implementation of Precision Feed Management on dairy farms in the Upper Susquehanna Watershed. This was a successful first step for furthering the implementation of Precision Feed Management in the Susquehanna Basin.

As we have work through this AEM Strategy, the tiered approach has been crucial in setting up a prioritization method, as we can’t address all farms at once. Some farms obviously present more water quality issues than others. Additionally, some producers have more interest than others in having a CNMP, CREP plan, or other best management practice developed for their farm and eventually implementing the plan. The method we develop will be used in determining which farms will have a plan developed first, and which plans are priorities

for funding and implementation. As this method develops and is tailored, we will make updates to this strategy.

With the recent approval of a three-year, five farm ANPSPACP Round XI proposal, the Susquehanna Basin in Delaware County will also be the incubation site for the implementation of Precision Feed Management on dairy farms in the Upper Susquehanna Watershed. This will be a first step for further implementation of Precision Feed Management in the Susquehanna Basin.

An additional goal in this watershed is to develop a method to track our progress with BMP implementation. We will work with the USC on this project, who will also be able to use this information as part of their plan to track BMP implementation in the Susquehanna Watershed statewide.

### New York City Watershed

In the New York City watershed Small Farms Program, we will continue with Tier 1 and Tier 2 assessments, as staff exists. There is a prioritization system in place already, which will be used to determine which farms will have a Tier 3c plan completed.

We will also continue with implementing BMPs in this watershed through funding from the WAP.

Through the leadership of Cornell Cooperative Extension of Delaware County and Delaware County, the Precision Feed Management program will continue to be implemented on dairy farms in the Cannonsville Basin, contingent on funding.

### Delaware River (Tail Waters)

The goal in this planning unit is to determine the number of farms in the watershed and the environmental concerns on those farms. From there, we will develop a more comprehensive strategy for the planning and implementation phase.

## Communications Strategy

One of the most crucial components for success in achieving the goals of this strategy is effective communication with the farmers. To that end, there are several efforts already underway in two out of the three planning units. In addition, the SWCD publishes a quarterly newsletter that covers developments, issues and progress being made in the watersheds. One goal of this strategy will be to include articles in the SWCD newsletter that update farmers about the AEM process and developments in this topic.

Another goal in addition to educating farmers and landowners about AEM, is to expand outreach and education about the importance of healthy stream and floodplain systems within our county, which is a recommendation, found in the Stream Corridor Management Plan.

Furthermore, a goal of this strategy is to continue outreach and education on grazing systems, precision feed and forage management and the benefits these programs can have on economic sustainability, phosphorous reduction and water quality improvement. This effort will be led by CCE of Delaware County.

### Susquehanna Watershed

Two informational meetings were held in March of 2005 to inform farmers about possible regulations from EPA because of Chesapeake Bay issues. We also reviewed our AEM strategy with them, as well as make them aware of the different phases involved in the AEM Tier process. We informed them of our plans to update and continue doing Tier 1 and Tier 2's in the watershed. We covered what funding opportunities might be available to them to help with BMP implementation and the continuation of the Susquehanna Program in Delaware County. A first-class mailing to farms listed with the Susquehanna Program, FSA and/or CCE was utilized to invite as many farmers as possible to the meetings and we were very pleased with the turn out.

In March of 2007 a follow up meetings were planned to update the farmers on progress in the Susquehanna Watershed, new funding opportunities and to reinforce the importance of the AEM program. Again a first-class mailing to farms listed with the Susquehanna Program, FSA and/or CCE was utilized to invite as many farmers as possible to the meetings. One meeting had to be canceled do to weather however, the turn out for the second meeting very good.

### New York City Watershed

The WAC has a communications director who coordinates the efforts of the program to educate and reach farmers in this watershed. There is a website available, several brochures, as well as a newsletter. In addition, there have been and will continue to be farm tours given to demonstrate new technologies and new techniques of farming, cropping, herd health, etc. that may increase profitability and protect water quality.

### Delaware River (Tail Waters)

A more comprehensive communication strategy is needed here, as there has been little activity in this planning unit to date. We will take ideas and processes already used in the other two planning units to develop the communication strategy. As it is developed and implemented, it will be written into this strategy through updates.

## Evaluation Strategy

This AEM Strategy will be evaluated annually in February by the AEM working group mentioned at the beginning of the strategy. We will review the individual goals within each planning unit and determine how or if our goals will change.

## AEM Base Funding Strategy

Our base funding strategy reflects a \$40,000 budget for Year 2 & Year 3.

### Base Funding Year 2

Planning Unit	AEM Process	Number to be Completed	Funding Available
Susquehanna Watershed	Tier 3A	4@1000	\$4000
	Tier 4	1 critical area protection proj.	\$38,550
	Tier 5Bc	1@500	\$500
Tail Waters of the Delaware			

Our strategy for 2006 was changed after the severity of the June flood. Tier 1's & 2's were put on hold in order to focus on Tier 4 implementation and address the immediate needs of the farmers in the Susquehanna watershed.

### Base Funding Year 3

Planning Unit	AEM Process	Number to be Completed	Funding Available
Susquehanna Watershed	Tier 1	20 @ \$100 each	\$2,000
	Tier 2	10 @ \$400 each	\$4,000
	Tier 3A (CREP)	3 @ \$1,000 each	\$3,000
	Tier 4	1 barnyard water mgt. system	\$6,400
	Tier 5A	40 @ \$200 each	\$8,000
	Tier 5B	10 plans @ 400 each 10 BMP's @ 250	\$4,000 \$2,500
	Education Outreach Program Evaluation	1 @ 500 1 @ 500 1 @ 500	\$500 \$500 \$500
Tail Waters of the Delaware	Tier 1	2 @ \$100 each	\$200
	Tier 2	1 @ \$400 each	\$400
	Tier 3A	1 @ \$1000 each	\$1,000
	Tier 4	1 barnyard water mgt. system	\$7,000

Our strategy for 2007 through 2009 is to continue to complete a Tier 1's & 2's for all farms that are present and willing to participate in our program in the Susquehanna Watershed and Tail Waters Planning Units. It is imperative for us to have an accurate documentation of the number, types and status of farms in these watersheds to help us prioritize where our planning and implementation efforts should be focused. We will also continue with any new Tier 2 assessments and updates that are needed, as identified through the Tier 1 information. The Tier 2 information we collect over the next two years and into 2009 will ensure that we have up-to-date and correct information and will identify those farms that need the most assistance to correct water quality issues and environmental concerns. We also anticipate continuing to complete Tier 3A plans along with BMP planning and Tier 4 implementation. As the number of plans and BMP's increase, Tier 5B the evaluation and revision of existing plans and BMP's is becoming a priority. Keeping the farmers informed and involved as well as the communities is necessary to successfully continue the progressive planning process in our priority watersheds.

### Strategy Approvals

- This up dated strategy was approved by the SWCD Board of Directors on April 18, 2007.
- It was reviewed by the AEM working group before being submitted.

## List of Acronyms

SWCD	Soil and Water Conservation District
CCE	Cornell Cooperative Extension
USC	Upper Susquehanna Coalition
USDA	United States Department of Agriculture
NRCS	Natural Resources Conservation Service
WAC	Watershed Agricultural Council
WAP	Watershed Agricultural Program
AEM	Agricultural Environmental Management
WQCC	Water Quality Coordinating Committee
DCAP	Delaware County Action Plan
NYS DEC	New York State Department of Environmental Conservation
NYC DEP	New York City Department of Environmental Protection
EPA	Environmental Protection Agency
TMDL	Total Maximum Daily Load
EQIP	Environmental Quality Incentives Program
ERPD	Environmental Review Problem Diagnosis
WFP	Whole Farm Plan
CRP	Conservation Reserve Program
AMA	Agricultural Management Assistance
BMP	Best Management Practices
CNMP	Comprehensive Nutrient Management Plan
ANPSPACP	Agricultural Nonpoint Source Pollution Abatement and Control Program
FSA	Farm Service Agency