

Wayne County

Agricultural Environmental Management

Strategic Plan 2009 – 2014



Wayne County Soil & Water Conservation District
partners with:



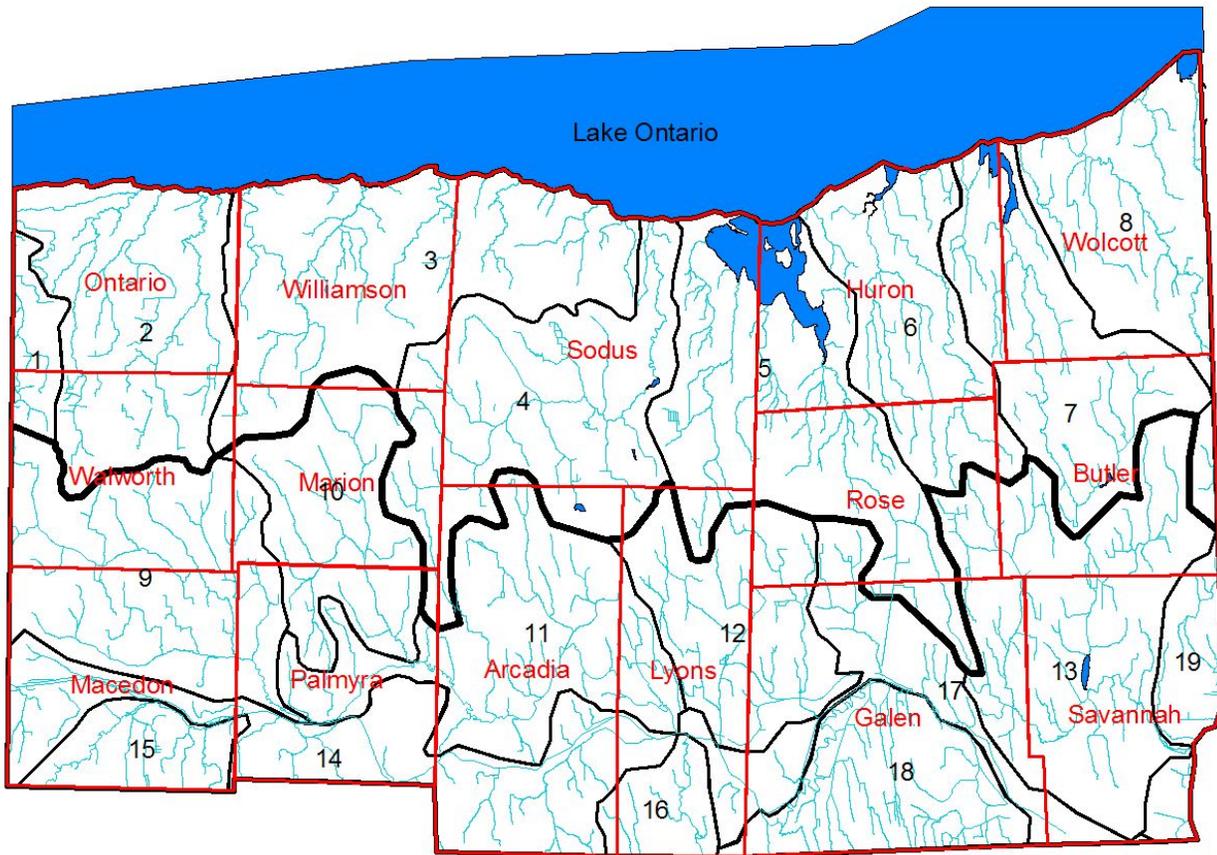
Cornell University
Cooperative Extension

Mission Statement

The mission of the Wayne County Soil & Water Conservation District AEM Strategic Plan is to coordinate and conduct outreach to the agricultural community to educate people about the AEM program and to facilitate and encourage AEM participation by farmers in watersheds to improve and protect the environment.

Vision Statement

The vision of the Wayne County Soil & Water Conservation District AEM Strategic Plan is to educate the public and stakeholders about AEM and to use the AEM program to evaluate and prioritize conservation areas of concern on farms and ultimately implement best management practices that will improve soil and water quality in local watersheds.



**Heavy Black Line separates Lake Ontario Direct Drainage
And NYS Barge Canal**

ID #	Watershed
1	Fourmile Creek
2	Bear & Mill Creek
3	Salmon Creek (West)
4	Salmon Creek (East)
5	Sodus Bay Watershed
6	East Bay Watershed
7	Port Bay Watershed
8	Blind Sodus Bay Watershed
9	Red Creek (West)
10	Red Creek (East)
11	Ganargua Creek (Lower)
12	Black Brook
13	Crusoe Creek
14	Erie Canal(West)
15	Ganargua Creek (Upper)
16	Canandaigua Outlet
17	Erie Canal(East)
18	Clyde River
19	Lower Seneca River

Introduction

Wayne County is located on the southern shore of Lake Ontario in North Western New York. Located on the banks of Lake Ontario, approximately midway between the City of Rochester and the City of Oswego, and just north of the New York State Thruway, Wayne County has access to some of the best land in New York State, as well as being situated in a moderate climate optimum for hearty fruit production.

Status of Agriculture in Wayne County

Wayne County is in the top five producing counties for New York State in soybeans, dry beans, sweet and tart cherries, peaches, pears, plums, asparagus, carrots, onions, apples, wheat, and potatoes. In addition, Wayne County is the number one county for fruit and berries in New York.

In 2003, there were 165,213 acres in farms, 43% of the county’s total 386,696 acres. There are 904 farms in the county averaging 183 acres per farm. Wayne County is the fifth largest ag producing county and the second largest crop producing county in New York State. Wayne County ranks 10th in the state for number of farms and 20th for land in farms. Wayne County ranks number one in New York State for apple production and third across the nation.

According to the 2002 Census of Agriculture New York State and County Data
Total Population of Wayne County – 93,728

Acres of Farmland 165,213 acres of farmland

- 24% Animal Production
- 21% Fruit Production
- 11% Grain Production
- 8% Vegetable Production
- 8% Dairy Farms
- 7% Nursery & Greenhouse
- 21% Other

Leading Agricultural Products	State Rank
39% Fruits & Nuts	1
14% Dairy Products	36
12% Nursery & Greenhouse	4
9% Vegetables	12
8% Grains & Dry Beans	6
18% Other Products	

Almost all of the surface and ground water in Wayne County that is not intercepted for consumption eventually ends up in Lake Ontario. Wayne County has two primary drainage basins: **Lake Ontario Direct Drainage** and **Seneca, Oneida, Oswego River Drainage Basin (via the NYS Barge Canal)**. Lake Ontario Direct Drainage essentially drains the northern half of Wayne County. All of the streams in the Towns of Ontario, Williamson, Sodus, Huron and Wolcott drain north into Lake Ontario. Parts of the Towns of Walworth, Marion, Arcadia, Lyons, Rose and Butler feed these tributaries. The Seneca, Oneida, Oswego Drainage Basin is all the water from all of the other streams originating in or passing through Wayne County must travel through the Oswego River before entering Lake Ontario. More simply,

everything within the basin west of the Oswego River, not draining directly into the river, empties into the Seneca River before it joins the Oneida River to form the Oswego River. Water from eight of the Finger Lakes, the Barge Canal and other tributaries from Monroe, Cayuga, Onondaga, Ontario, Seneca and Wayne counties travel some distance through the Seneca River. All told, the Seneca River sub-basin accounts for 3,468 square miles of the total 5,122 square miles of the Oswego River Basin. The watershed area of Wayne County makes up a small fraction of the Seneca River sub-basin.

Historical Perspective: The Wayne County Soil & Water Conservation District has been actively involved in assisting farmers evaluate, install and improve conservation management practices since the District formed in 1944. In conjunction with evolving state and federal funding opportunities, District and NRCS technical staff have assisted many farmers with planning and implementation of conservation practices. Cornell Cooperative Extension program staffs have also been instrumental in helping county farmers to achieve agricultural conservation goals.

In 1999, a Comprehensive Watershed Management in Wayne County booklet was published to educate the public on water quality issues. This booklet outlined water resources (with water use impairments defined by DEC's PWL lists), setting priorities, BMPs and recommendations for management. This booklet was provided through a grant from the New York State Soil & Water Conservation Committee under Section 319 of the Environmental Protection Agency, the Finger Lakes-Lake Ontario Watershed Protection Alliance (FL-LOWPA) program, Wayne County Soil and Water Conservation District (SWCD) and the NYS Department of Environmental Conservation (DEC).

In 2005, a pilot program was funded through a combination of grants through the EPA and NRCS to improve the water quality of the Sodus Bay Watershed. A private consulting firm was contracted to work with the SWCD to utilize the AEM process in determining the best possible choices and practices that will have the greatest impact on improving the water quality of the Sodus Bay Watershed. This 2 year program identified 63 farms in watershed, completed 36 Tier 1 questionnaires, conducted 36 Tier 2 assessments, completed CNMPs for 15 farms and implemented BMPs on 6 farms.

Through AEM Base Funding Wayne County SWCD has obtained 6 Tier 1s and 1 Tier 2 in Port Bay Watershed in AEM Year 1, 27 Tier 1s and 27 Tier 2s in farmer signups (from Graze NY grazing plans, NRCS EQIP signups, walk ins) in AEM Year 2 and 126 Tier 1s and 26 Tier 2s in a scattershot survey throughout county in AEM Year 3.

The Wayne County Soil and Water Conservation District has formed an Agriculture Advisory Committee that will guide the agriculture program in Wayne County. This Advisory Committee will assist the Wayne County SWCD to implement its AEM program. This Advisory Committee will interact, complement, and address the efforts of other groups such as:

- Water Quality Coordinating Committee
- Farmland Preservation Board
- USDA Farm Bill Programs with FSA and NRCS
- Local watershed organizations (i.e. Save Our Sodus (SOS) Port Bay Improvement Association, East Bay Improvement Association, and Save Our Clyde River (SOCR).
- County Planning Department (with Agricultural Development Specialist)
- Cornell Cooperative Extension
- Lake Ontario Coastal Initiative
- NYS Ag & Markets
- private consultants and professional engineers
- NYS Department of Environmental Conservation
- other agri-business groups
- local municipalities

Wayne County's Agriculture Advisory Committee is composed of SWCD staff (District Manager and Agriculture Technician), NRCS (District Conservationist and shared Soil Conservationist), Cornell Cooperative Extension (Field Crops Agent for NWNYS Regional Team and Grazing Specialist), Farm Bureau (currently President of Wayne County Farm Bureau, also a practical farmer), Wayne County Planning Department (Agriculture Development Specialist), Farm Service Agency (CED), several local farmers, and input from private consulting firms. This committee will meet on a quarterly basis to review progress, provide input from designated specialties, evaluate accomplishments, and provide recommendations to improve AEM program. Wayne County SWCD will provide monthly program status updates via email.

Committee members will be assigned specific responsibilities based on partnerships, skills, and capacity. Presently, members are assisting with developing outreach and education materials and efforts to support the AEM program. These efforts include newsletter articles, media contacts, displays/presentations at meetings and seminars, and personal contact with neighbor farmers. The committee and associated groups will actively promote this strategy by coordinating programs and initiatives that currently exist within its member agencies/organizations.

In making determinations for watershed priorities for this AEM Strategic Plan, the watersheds were evaluated according to the following criteria: cropland, number of farms, type of farms, documented water quality impacts from agriculture, farmer inputs and cooperation levels, previous and current projects and/or studies conducted by the District or other agencies, and a need to conduct a thorough assessment of agriculture in the county.

Planning Units and Water Quality Problems

Rankings were determined based on NYSDEC Priority Waterbodies Lists (PWL) and District, Water Quality Coordinating Committee, partner agency and farmer inputs.

Sodus Bay Watershed

Sodus Bay is the largest of the four bays in Wayne County with a 23 mile shoreline. It is also one of the two most heavily developed bays in the county. The associated watershed is over 46 square miles from the Towns of Sodus, Lyons, Huron, Rose and Galen (Williams 1990). The largest of the tributaries is Sodus Creek which drains approximately 40% of the watershed. Sodus Creek is also the largest contributor of nutrients and sediment into the bay. The other major tributaries in decreasing size are: Second Creek, Third Creek, Sodus Creek West, First Creek, and Clark Creek. It has been demonstrated by studies (Makarewicz and Lewis 1989, Williams 1990) that the tributaries are the primary source for the phosphorus in Sodus Bay. Of the tributaries, Sodus Creek is the major contributor of nutrients and suspended solids. It accounts for 95% of the total phosphorus, 81% of the total nitrogen, 82% of the nitrate, and 98% of the total suspended solids entering Sodus Bay (Makarewicz *et al.* 1992). Heavy development around Sodus Bay has created a situation seen throughout the Finger Lakes and wherever homes are crowded onto the shoreline: failed or inadequate septic systems. The combined inputs from all of the tributaries and shoreline homes have lead to the degradation of the Sodus Bay water quality. Frequent algal blooms and thick aquatic plant growths have interfered with the quality of recreational opportunities on the bay. The existence of pathogens and the rich “pea soup” resulting from the algae blooms can deter one’s desire to recreate in the bay.

Land use within the tributary watersheds is predominantly agricultural. Farm operations include dairy, beef, other livestock, field crops, vegetables, and several fruit orchards.

This is a priority watershed with documented water quality concerns for Sodus Bay and Sodus Creek. Sodus Bay and Sodus Creek are both assessed on 2007 NYSDEC Priority Waterbodies List.

In Sodus Bay public bathing, fish consumption, and recreation are stressed from algal/weed growth, priority organics, and pesticides from known pollutants, as well as, silt/sediment as a possible pollutant (2007 NYSDEC PWL). Nutrients from on-site septic systems and agriculture are suspected sources for algal/weed growth. This waterbody is designated class B, suitable for use as a public bathing beach, general recreation and aquatic life support, but not as a water supply. The pugnose shiner, an endangered species, is located in areas of Sodus Bay. Two threatened species, box turtle and spiny softshell turtle, have protected nesting locations on Sodus Bay.

In Sodus Creek aquatic life is threatened from nutrients and silt/sediment into the waterbody with agriculture as the suspected pollutant source. Aquatic life support in Sodus Creek is thought to experience threats due to nutrient loadings from nonpoint agricultural activity in the watershed. Previous studies by the Wayne County SWCD have shown that this stream is a significant contributor of excessive nutrients to Sodus Bay (2007 NYSDEC PWL). The waters of the stream are Class C, C(T), with all tributaries classified as Class C, C(TS).

Port Bay Watershed

Port Bay is the second largest bay in Wayne County with a heavily developed 7.5 mile shoreline. Port Bay Watershed is approximately 14,377 acres associated with a Bay area of 475 acres (Wayne County Embayments Resource Preservation and Watershed Enhancement Plan 2008). Currently, Port Bay is listed as a Class B waterbody.

However, Port Bay is considerably more eutrophic than Sodus Bay. Algae measured in terms of chlorophyll *a*, at levels greater than 10 ug/L is considered high. Levels in Sodus Bay are around 15 ug/L while the levels in Port Bay range from 80 to 214 ug/L (Wayne County Watershed Management 1998). The levels of phosphorus are equally extreme. Each summer Port Bay suffers through an algal bloom that turns the bay a brilliant green color (Williams 1990).

The primary source for nutrients and suspended solids in Port Bay is Wolcott Creek. Wolcott Creek contributes 95% of the total phosphorus, 94% of the total nitrogen, 99% of the nitrate and 96% of the total suspended solids entering the bay. The other two small tributaries add only 7% of the total discharge and even less of the nutrients (Makarewicz *et al.* 1994). Due to the nutrient loading of Port Bay the phosphorus cycling that accompanies the formation of an anoxic zone, Port Bay is characterized by dense aquatic vegetation growth, eutrophication and algal blooms. Like Sodus Bay, the conditions compromise the utility of the water for bathing, boating, and aesthetics.

Land use within the tributary watersheds is predominantly agricultural. Farm operations include dairy, poultry, beef, other livestock, field crops, vegetables, and several fruit orchards.

Port Bay is identified in NYSDEC 2007 Section 303 (d) List of Impaired Waters requiring a TMDL development due to nutrient loading from agriculture and municipal sources. A second primary pollutant is pathogens with priority organics and pesticides as secondary pollutants (2007 NYSDEC PWL). The primary source for nutrients and suspended solids in Port Bay is Wolcott Creek, listed separately on NYSDEC PWL.

In Wolcott Creek aquatic life is stressed from nutrients (phosphorus) into the waterbody with agriculture as the known pollutant source. Aquatic life support and recreational uses in Wolcott Creek are known to experience minor impacts due to nutrient loadings from nonpoint agricultural activity in the watershed (2007 NYSDEC PWL). Manure spreading and other activities at large agricultural operations in this watershed are considered likely sources of nutrients to the stream. Previous water quality monitoring of the stream by the Wayne County SWCD found high loadings of nutrients (2007 NYSDEC PWL). The waters of the stream are Class C, with all tributaries classified as Class C.

East Bay Watershed

East Bay is a small body of water tucked between Sodus and Port Bays in the Town of Huron. It has only two significant tributaries, one of which is Mudge Creek. It is a shallow, eutrophic bay heavily influenced by the inputs of the two tributaries. East Bay is the least developed of the four embayments in Wayne County. East Bay Watershed is approximately 16,401 acres associated with a Bay area of 189 acres (Wayne County Embayments Resource Preservation and Watershed Enhancement Plan 2008).

Land use within the tributary watersheds is predominantly agricultural. Farm operations include field crops, vegetables, and several fruit orchards.

In East Bay fish consumption is stressed from priority organics and pesticides as known pollutants. Agriculture is not listed on PWL for East Bay but may be contributing nutrients, sediments, and pesticides. Currently, East Bay is listed as a Class B waterbody. As of 2006, East Bay occupies a position on the NYSDEC 305(b) list as a waterbody that is in need of verification for possible use impairments. While sharing the same class designation as Port Bay and Blind Sodus Bay, East Bay has not been officially documented as impacted by increased nutrient concentrations and excessive algae/weed growth and therefore is not currently listed on the states 303(d) list as a waterbody that may require the development of a total maximum daily load (Wayne County Embayments Resource Preservation and Watershed Enhancement Plan 2008).

Mudge Creek is the largest of two tributaries that influence East Bay, which is listed separately on NYSDEC PWL. In Mudge Creek, aquatic life is stressed and aesthetics is threatened from nutrients with agriculture as the only possible pollutant source. Aquatic life support in Mudge Creek may experience impacts due to excessive nutrient loadings and low dissolved oxygen due to nutrient loadings from nonpoint agricultural activity in the watershed (2007 NYSDEC PWL).

The waters of the stream are Class C, C(T), with all tributaries classified as Class C, C(T).

Blind Sodus Bay Watershed

Blind Sodus Bay is small with only a 3 mile shoreline and has only one significant tributary, Blind Sodus Creek. Blind Sodus Bay Watershed is approximately 8,670 acres associated with a Bay area of 240 acres (Wayne County Embayments Resource Preservation and Watershed Enhancement Plan 2008).

Land use within the tributary watersheds is predominantly agricultural. Farm operations include field crops, vegetables, and several fruit orchards.

According to a Citizens Statewide Lake Assessment Program (CSLAP) study in 1993 the bay is more eutrophic than Sodus Bay but less than Port Bay. Brilliant green algae blooms do occur each year and aquatic plant growth is a problem. Like Port Bay, there is a health advisory for Blind Sodus Bay due to contamination of fish.

In Blind Sodus Bay public bathing and recreation is impaired, fish consumption is stressed from algal/weed growth, nutrients (phosphorus), priority organics, and pesticides are known pollutants, as well as, pathogens as a suspected pollutant (2007 NYSDEC PWL). Nutrients from on-site septic systems and agriculture are suspected sources for algal/weed growth. Public bathing and recreational uses in Blind Sodus Bay are thought to be impaired by elevated nutrient loadings and resulting algal blooms and excessive aquatic weed growth. The nutrient loads are thought to be the result of urban/stormwater runoff, residential development, agricultural activities and other Nonpoint sources in the watershed (2007 NYSDEC PWL). The lake chubsucker, an endangered species, is located in the southeast corner of Blind Sodus Bay. DEC has a designated protective boundary around area of concern.

Blind Sodus Bay is identified in NYSDEC 2006 Section 303 (d) List of Impaired Waters requiring a TMDL development due to nutrient loading from on site septic systems and municipal sources (2007 NYSDEC PWL). Agricultural and other nonpoint runoff are also likely contributors to the bay (DEC/DOW, BWAM/Lake Services, August 2006). Currently, Blind Sodus Bay is listed as a Class B waterbody. Recently, a TMDL has been developed for Blind Sodus Bay by The Cadmus Group, Inc. This TMDL focuses on the reduction of phosphorus to achieve in-bay concentrations of 20 ug/L as consistent with state designations for a Class B waterbody (Wayne County Embayments Resource Preservation and Watershed Enhancement Plan 2008).

Crusoe/Butler/Black Creek Watershed

Crusoe Creek runs from Crusoe Pond into the Seneca River within the Town of Savannah. The segment of concern is the 0.5 mile stretch east of the Route 89 bridge. There is concern that muck farming adjacent to the surface water intake for the Hamlet of Savannah water supply could result in nutrient and pesticide pollution of the water. Currently the stream is classified as C, but because the NYS DOH has identified this stream as a water supply for the Hamlet of Savannah, it should be Class A.

Land use within the tributary watersheds is predominantly agricultural. Farm operations include dairy, beef, other livestock, field crops, vegetables.

Ganargua Creek Watershed

The 6.6 mile stretch of Ganargua Creek that runs from the Ontario County line to the Barge Canal is in the Town of Macedon. The presence of atrazine in the creek, discovered by the Department of Fisheries, threatens fish propagation and survival. High levels of ammonia are also a problem.

Land use within the tributary watersheds is predominantly agricultural. Farm operations include dairy, beef, other livestock, field crops, vegetables.

In Ganargua Creek aquatic life is stressed from nutrients (phosphorus) as known pollutants and silt/sediment as a suspected pollutant (2007 NYSDEC PWL). Nutrients and silt/sediment from construction, urban/storm runoff, and agriculture are the suspected sources. Aquatic life support in this portion of Ganargua Creek is known to experience minor impacts due to nutrients from primarily nonpoint sources (2007 NYSDEC PWL).

The waters of this portion of the stream are Class C.

Clyde River Watershed

A 9.4 mile stretch of the Clyde River passes through the Town of Galen beginning at Pond Brook and ending at the Barge Canal. Historical uses of the river include boating, fishing, and sightseeing. Of these activities, boating is currently the most impaired. Low water levels and flows, as a result of a substandard diversion of water into the canal and significant log jams, make navigation difficult. The low flows combined with manure runoff and silage leachate runoff from a dairy farm in Seneca County on Dublin Brook create excellent conditions for heavy duck weed growth and algae cover. This growth makes it impossible to fish in the river at some times of the year.

Land use within the tributary watersheds is predominantly agricultural. Farm operations include dairy, beef, other livestock, field crops, and vegetables.

In Clyde River aquatic life and recreation is stressed from nutrients are suspected pollutants, as well as, pathogens as a possible pollutant (2007 NYSDEC PWL). Nutrients from agriculture are the suspected source with on-site septic systems as a possible source. Aquatic life support and recreational uses in this portion of the NYS Barge Canal and Clyde River are known to experience impacts due to

organic wastes from various nonpoint and/or discharges in this area. Previous PWL assessments noted that barnyard runoff and milkhouse wastewater discharges in the stream had impact on the fishery as well as the aesthetics of the stream (2007 NYSDEC PWL).

The waters of this portion of the river/canal are Class C.

Red Creek Watershed (East-Marion)

Red Creek runs 3.0 miles from the Hamlet of Marion in the Town of Marion to Ganargua Creek in the Town of Palmyra, but collects water from as far away as the southern portion of the Town of Williamson. Application of apple pumice to the land is the greatest threat to Red Creek. The runoff from these lands is high in nutrients and biological oxygen demand (BOD) threatens fish survival and aesthetics.

Land use within the tributary watersheds is predominantly agricultural. Farm operations include dairy, beef, other livestock, field crops, vegetables, and fruit orchards.

In Red Creek aquatic life is stressed from nutrients and BOD as suspected pollutants (2007 NYSDEC PWL). Nutrients from agriculture is the suspected source. Aquatic life support in Red Creek may experience minor impacts due to nutrients and BOD loading from agricultural activities and a food processing discharge (2007 NYSDEC PWL).

The waters of the stream are Class C/D. Tributaries to this reach/segment are also Class C/D.

Red Creek Watershed (West – Walworth)

In Red Creek aquatic life and recreation are stressed from algal/weed growth, nutrients (phosphorus) and silt/sediment as known pollutants (2007 NYSDEC PWL). Nutrients and silt/sediment from agriculture is the suspected source. Aquatic life support and recreational uses in Red Creek are known to experience minor impacts due to nonpoint nutrients and silt/sediment (2007 NYSDEC PWL). Although aquatic life is supported in the stream, nutrient biotic evaluation indicates/suggests the level of eutrophication is sufficient to stress/threaten aquatic life support (DEC/DOW, BWAM/SBU, June 2005).

The waters of the stream are Class C. Tributaries to this reach/segment are also Class C, C(T).

Canadaigua Outlet Watershed

Land use within the tributary watersheds is predominantly agricultural. Farm operations include dairy, beef, other livestock, field crops, and vegetables.

In Canadaigua Outlet aquatic life is stressed from nutrients (phosphorus) are known pollutants, as well as, silt/sediment as a suspected pollutant (2007 NYSDEC PWL). Aquatic life support in this portion of Canadaigua Creek is known to experience minor impacts due to nutrients from nonpoint sources (2007 NYSDEC PWL). Although aquatic life is supported in the stream, nutrient biotic evaluation indicates/suggests the level of eutrophication is sufficient to stress/threaten aquatic life support (DEC/DOW, BWAM/SBU, June 2005).

The waters of this portion of the stream are Class C. Tributaries to this reach/segment are Class C, C(T).

NYS Barge Canal

Roughly 30 miles of the canal, stretching from Monroe County to Seneca County, cuts through the southern portion of Wayne County. Water quality issues of the canal are an extreme managerial challenge. Not only is the canal the receiving water body for approximately half of Wayne County, but it receives a large quantity of water from the Genesee River and drainage from Monroe, Ontario, and Seneca Counties. Opening and closing of the locks is used to regulate the flow of the canal. The water levels are also influenced by the stage of the Genesee and Oswego Rivers, the two major water bodies on either end of this section of the canal.

Land use within the tributary watersheds is predominantly agricultural. Farm operations include dairy, beef, other livestock, field crops, vegetables, and fruit orchards.

In eastern section of NYS Barge Canal aquatic life is impaired from nutrients and pathogens as suspected pollutants (2007 NYSDEC PWL). Nutrients and pathogens from agriculture is a suspected source. (2007 NYSDEC PWL). NYS Barge Canal (portion 5) is identified in NYSDEC 2008 Section 303 (d) List of Impaired Waters. The canal is currently included on Part 3a of the List as a Water Requiring Verification of Impairment.

The waters of this portion of the canal are Class C.

Implementation of the Wayne County SWCD AEM Strategic Plan

Outreach and Education

Promote the improvement of environmental resource quality in each of the watersheds through the AEM program.

Continue to seek out agencies and organizations that provide cost share assistance.

Encourage landowners to sign up and/or seek cost share assistance for installing BMPs that will improve and protect water quality and other environmental resources.

Reach out to farming community, as well as, agri-business in county to educate public and promote outreach about AEM.

Provide AEM display for partners and ag related organizations to utilize at meetings and functions.

Work with Ag Advisory Committee to establish county guidelines for AEM sign program.

Utilize local organizations to provide grass roots support of AEM program and encourage partnerships to build skillsets of future workforce (conservation clubs, 4-H, FFA, etc.).

Promote water quality education programs.

Encourage partners and committee members to attend AEM media training.

Utilize media resources to spotlight and publicize AEM accomplishments and projects.

Technical

Evaluate current AEM program.

Review current farms enrolled in AEM, determine Tier level, and document installed BMPs.

Determine sub-watersheds for existing AEM farms to assist with prioritization of planning and implementation projects.

Establish database to manage information about farms in AEM program.

Create case file procedure for existing and new AEM enrollees.

Follow up with production farmers from inventory of existing Tier 1s to complete Tier 2 assessments.

Continue to advance farms in priority watersheds to complete Tier 3 conservation plans.

Continue to solicit AEM in priority watersheds, reach out to non-traditional farms (i.e. hobby farms, nurseries/Christmas tree farms, equine and other livestock, chemical/seed/feed dealers, etc.).

Work with partner organizations to continue to compile and analyze data to further AEM priorities.

Work with farmers and funding sources to solicit cost-share funding to implement BMPs.

Evaluation

- ✓ SWCD will provide Ag Advisory Committee with monthly progress reports via email.
 - Farmers enrolled
 - Tiers 1 & 2 completion
 - Timely completion of Tier 3 plans
 - Implementation of BMP progress
 - Eventually evaluation of BMPs
 - Time spent for file management, time accounting, etc.
- ✓ Ag Advisory Committee will meet quarterly to review progress of AEM program.
- ✓ SWCD and Ag Advisory Committee will complete AEM Report Card in March/April of each year before AEM Year closes. This review will provide input and determine any changes that need to be made and how to implement the changes.
- ✓ Maintenance of database to track progress of AEM program (to include watershed, tier completion dates, implementation of BMPs, etc.)
- ✓ Evaluation of farmer and landowner involvement for progressing through AEM.
- ✓ Evaluation of programs for effectiveness of conservation program delivery and participation.
- ✓ Comparison of conservation program participation against previous years.
- ✓ Evaluation of programs being implemented versus watershed needs.

Year 1 Priority Areas

Review existing AEM program. Existing AEM efforts have been limited to scattershot Tier 1s with a few Tier 2s. Current AEM enrolled farms have been lumped into two watersheds: Direct Drainage to Lake Ontario and Erie Canal. We will identify sub-watersheds for all existing AEM enrollees to get a better understanding on number of farms in priority areas. Identifying farms in sub-watersheds will direct our AEM program as where to conduct outreach and education programs in Year 1 and 2.

Sodus Bay Watershed was the main focus of the 2005-2007 EPA/NRCS grant so our AEM program will focus in reaching out to those farms that participated in that grant. Production farms will be contacted to complete/update a Tier 2 assessment and existing CNMPs will be updated by district staff or private consulting firms. Any farm that chose not to participate in the EPA/NRCS grant will be contacted, as well as, any farms that may have been overlooked in original survey. Tier 3A/3B conservation plans will be developed for any interested farms. All interested farms will be encouraged to apply for cost share assistance through Federal programs as well as the NYS EPF NPS grant program.

Black Brook Watershed has several farmers that were part of the 2005-2007 EPA/NRCS grant because of the close proximity to Sodus Bay Watershed, farming land in both watersheds. There was interest from farmers in Black Brook Watershed that were interested in AEM that were turned away at that time because they did not fit criteria for grant (mainly inclusion in Sodus Bay Watershed). A public outreach event will be planned to educate public and farmers about AEM, to capture remaining farms in watershed. Any current Tier 1 or 2s from previous grant will be updated and all farms in watershed would be encouraged to have Tier 3 plans developed. All interested farms will be encouraged to apply for cost share assistance through Federal programs as well as the NYS EPF NPS grant program. Tributary sampling will be done on selected tributaries in this watershed for baseline data collection.

Wayne County SWCD is a beneficiary of the GRAZE NY program. All previous participants will be contacted and encouraged to enroll in AEM. NRCS currently has a backload of implementation projects for GRAZE NY participants that the SWCD can assist with and utilize for AEM outreach efforts.

Year 2 Priority Areas

Port Bay Watershed was a priority watershed a couple years ago and there is a small amount of Tier 1s on file. This watershed will be chosen due to the fact that it currently sits on NYSDEC's 303(d) list requiring TMDL Development. A public outreach event will be planned to educate public and farmers about AEM. Original signed up farms will be contacted to conduct Tier 2 assessments and encouraged to progress in AEM process. Tier 3 plans will be developed for interested farms and cost share opportunities will be discussed with farmers.

Crusoe Creek in conjunction with Butler and Black Creeks would be next priority watershed based on the fact that the Hamlet of Savannah utilizes surface water for its water supply. There is muck farming adjacent to the surface water intake that could utilize AEM planning to limit potential of nutrient and pesticide pollution. A public outreach event will be planned to educate public and farmers about AEM. All farms in watershed will be contacted to inform and educate them of the impacts to the creek and water quality. Farms will be encouraged to enroll in AEM to protect surface and groundwater in the area.

This area is a high priority to address for SWCD and the Ag Advisory Committee because of the high nutrient loading and pathogen potential from livestock and crop farms. A second concern is pesticides, considering number of tributaries in watersheds and amount of land in cropland in these watersheds. Reducing the potential for pathogens, nutrient loading and pesticide contamination in tributaries and NYS Barge Canal is a goal of the Ag Advisory Committee.

Year 3 Priority Areas

First priority in this year would be to review progress in previous two years and prioritize remaining workloads generated from those watersheds.

Blind Sodus Bay would be one of two priority watersheds for Year 3 due to the fact that a TMDL has been developed and currently has been delisted from NYSDEC's 303(d) list. We will contact the private firm that developed the TMDL to inquire how the Wayne County SWCD can assist with the implementation of that TMDL. A public outreach event will be planned to educate public and farmers about AEM and about possible ramifications with the TMDL.

Marbletown Creek is also selected because of its inclusion on NYSDEC's 303 (d) Part 3a list. Marbletown Creek is a short half mile stretch of stream that has been severely impacted by high levels of pesticides. When Marbletown Creek was sampled in June 1987 by the Regional Water and Fisheries and showed levels of pesticide components well over 3,000 times the standard concentrations. We will follow up with Regional Water and Fisheries in Year 1 or 2 to determine if any additional sampling has done since 1987. We will utilize FL-LOWPA funds to sample the tributary ourselves to provide additional data.

A public outreach event will be planned to educate public and farmers about AEM. All farms in watershed will be contacted to inform and educate them of the impacts to the creek and water quality. Farms will be encouraged to enroll in AEM to protect surface and groundwater in the area.

Red Creek West and East in the towns of Marion, Palmyra, Walworth, and Macedon would be third priority watershed due to development pressures on that end of the county. Based on previous experiences of staff and committee members we felt that when development pressures encroach agricultural areas, public awareness is increased and the possibilities for complaints rises. NYSDEC's PWL lists nutrient loading as its pollutant concern from agricultural activities, especially land application of apple pumice. Combining PWL with development concerns solidifies our decision to bring AEM to Red Creek Watershed would be beneficial to farms and communities in general. Outreach presentations will be conducted in watershed area (planning and/or conservation boards) to inform and educate general public about AEM. All farms will be contacted in watershed to inform and educate them of the benefits of enrolling in AEM.

These areas are a high priority to address for SWCD and the Ag Advisory Committee because of the high nutrient loading potential from livestock and crop farms. A second concern is pesticides, considering number of tributaries in watersheds and amount of land in cropland in these watersheds. Reducing the potential for nutrient loading and pesticide contamination in tributaries and NYS Barge Canal is a goal of the Ag Advisory Committee.

Year 4 Priority Areas

Salmon Creek West and East
Mill Creek/Bear Creek

These watersheds are grouped together due to their proximity to each other and the type of land use. The land use is predominantly agricultural with orchards the main agricultural focus. The PWL for Salmon Creek lists agriculture as a suspected pollutant source for unknown toxicity. Mink Creek watershed is a sub-watershed within Salmon Creek West Watershed and is listed under minor tributaries to Lake Ontario, Central. Under this PWL listing nutrients and dissolved oxygen/oxygen demand are listed pollutants with agriculture as the pollutant source. Water uses in this tributary experience impacts due to excessive nutrient loads and resulting low dissolved oxygen.

These areas are a high priority to address for SWCD and the Ag Advisory Committee because of the high nutrient loads with land application of apple pumice and fertilizer applications. A second concern is pesticides, considering orchards utilize multiple applications. Reducing the potential for nutrient loading and pesticide contamination in tributaries and Lake Ontario is a goal of the Ag Advisory Committee. Tributary sampling will be conducted on select tributaries to provide baseline data to supplement PWL and Ag Advisory Committee concerns.

Mill Creek is included on NYSDEC's 303 (d) Part 3a list because aquatic life support, public bathing, and other recreational uses are thought to be impaired by various nonpoint sources. Development is increasing in that area but it is still part of the apple production area. The same concerns for both Salmon Creek watersheds and Mink Creek watershed pertains to Mill Creek as well.

A public outreach event will be planned to educate public and farmers about AEM. All farms in watershed will be contacted to inform and educate them of the impacts to their particular waterbody and water quality. Farms will be encouraged to enroll in AEM to protect surface and groundwater in the area.

Year 5 Priority Areas

Ganargua Creek
Clyde River
NYS Barge Canal

These watersheds are grouped together due to their proximity to each other and the type of land use. The land use is predominantly agricultural with a diverse array of farm operations. Ganargua Creek intertwines with NYS Barge Canal in several places and Clyde River originates in Ontario County and outlets into NYS Barge Canal as well. Listed on PWL for Clyde River is dissolved oxygen/oxygen demand and nutrients with agriculture as a primary pollutant source. Minor tributaries to Clyde River are listed the same with barnyard runoff and milkhouse wastewater concerns listed on its assessment as well. Ganargua Creek has nutrients listed as a known source with silt/sediment as a suspected pollutant with agriculture listed as a pollutant source. NYS Barge Canal (portion 5, from Lyons to eastern edge of Wayne County) has nutrients and pathogens as pollutants of concern with agriculture listed as a pollutant source. This segment of canal is also listed on NYSDEC's 303 (d) Part 3a list because aquatic life support is thought to be impaired by various nonpoint sources.

These areas are a high priority to address for SWCD and the Ag Advisory Committee because of the high nutrient loading potential from livestock and crop farms. A second concern is pesticides, considering number of tributaries in watersheds and amount of land in cropland in these watersheds. Reducing the potential for nutrient loading and pesticide contamination in tributaries and NYS Barge Canal is a goal of the Ag Advisory Committee. Tributary sampling will be conducted on select tributaries to provide baseline data to supplement PWL and Ag Advisory Committee concerns.

A public outreach event will be planned to educate public and farmers about AEM. All farms in watershed will be contacted to inform and educate them of the impacts to their particular waterbody and water quality. Farms will be encouraged to enroll in AEM to protect surface and groundwater in the area.

Overview of Wayne County AEM Strategic Plan Objectives

The SWCD will use the AEM Strategic Plan to identify and address agricultural sources of impacts to water quality concerns in these identified high-priority watersheds. Completion of the AEM Tier 1 and Tier 2 assessments remains a high priority in the county. Although cost-share funds for implementation projects are limited and competitive in most cases, there may be many opportunities for farmers to make low, or no-cost, changes to their operation upon completion of the Tier 2 assessment that will improve soil and water quality on the farm and in the greater community.

The Ag Advisory Committee will partner with District efforts to promote the AEM program and educate farmers and the community on the benefits of farmer participation through multi-media:

Agency newsletters: SWCD, CCE, Farm Bureau, NRCS, FSA

Watershed Committee newsletters & meetings: WQCC, Save Our Clyde River Association, various Bay Associations

Local newspapers: Wayne County Times, Wayne County Star

Websites: SWCD, CCE

Assistance Provided

Agencies Involved

Assistance Provided	Agencies Involved
Education	SWCD, CCE, NRCS, FSA, Local Municipalities
Outreach	SWCD, CCE, NRCS, FSA, Farm Bureau, WQCC, Local municipalities, County Planning Department,
Engineering	NRCS, Private Sector, SWCD
Existing Monitoring	SWCD, County Health Dept., NYS DEC, volunteer groups
Technical Advice	SWCD, CCE, WQCC, County Health Dept.
Program Evaluation	SWCD, NRCS, WQCC
Program Administration	SWCD
Grant Writing	SWCD, CCE
Existing Biological Monitoring Activities	NYS DEC, CCE, SWCD
Prioritizing critical areas	SWCD, CCE, WQCC
Prioritizing BMP's on farms for implementation	SWCD, NRCS, Ag Advisory Committee, CCE, farmers, WQCC
Program Guidance	NY Ag & Markets

Objectives, Tasks Timeline, Who's responsible

OBJECTIVE 1: Conduct Inventory of Agricultural Concerns

<i>Associated Tasks</i>	<i>Timeline</i>	<i>Who's Responsible</i>
Notify local stakeholders and municipal officials about AEM program so that the word gets out to farmers about program	April - May	SWCD staff, Ag Advisory Committee, CCE, NRCS, WQCC, FSA, municipal staff
Identify and then contact all landowner/farmers in priority watershed in county via letters and follow up phone calls to generate interest in participating in the AEM program	May - July	SWCD Staff
Set up appointments with landowners and farmers and conduct Tier 1 assessments or Mail Tier 1 surveys out to all farmers in watershed	July - September	SWCD Staff
Conduct Tier 2 assessments with interested farmers that have completed Tier 1 assessments	September - December	SWCD Staff

OBJECTIVE 2: Analyze Inventoried Data and Prioritize

<i>Associated Tasks</i>	<i>Timeline</i>	<i>Who's Responsible</i>
Enter Tier 2 data into GIS system to identify priority farms	December - January	SWCD Staff
Meet with local workgroups and stakeholders to review GIS data and identify critical areas and prioritize farms	January - February	SWCD Staff, Ag Advisory Committee, CCE
Identify which priority farms should complete Tier 3 plans. Contact by mail and telephone to discuss protocol for completing Tier 3 plans.	February - March	SWCD Staff

OBJECTIVE 3: Identify and Implement Appropriate Resource Management Systems (RMSs)

<i>Associated Tasks</i>	<i>Timeline</i>	<i>Who's Responsible</i>
Complete Tier 3 plans with interested farmers	February - May	SWCD Staff, CCE, NRCS, private planners
Identify funding opportunities to implement Resource Management System (Tier 4)	January - February	SWCD Staff, CCE, NRCS
Contact interested farmers who have completed Tier 3 plans that will continue on and implement Resource Management System (Tier 4). Seek funding if needed.	February - March	SWCD Staff
Once funding secured (farmer or cost-share program) work with farmer to create a schedule to implement conservation practices	January - March	SWCD Staff, NRCS, private planners

OBJECTIVE 4: Evaluate project success in addressing water quality concerns

	Program Evaluation	Watershed Evaluation	Farm Evaluation
Evaluation Factors	Effectiveness of program delivery	Importance of agriculture within the watershed Water quality monitoring	Extent and status of nutrient management planning
Evaluation Measures	AEM farmer participation level: # Tier 1,2,3,5 completed State & Federal conservation program participation	Level of community support for agriculture Community awareness of environmental benefits of agriculture # of ag complaints compared to previous years	Soil sampling frequency Manure sampling frequency
Feedback Mechanism	Comparison to previous years participation % AEM farms that are in other conservation programs Comparison of popular programs with actual watershed needs	Watershed coalition reports and outreach materials Municipal information	Farmer satisfaction with Tier 1,2,3,5 participation Continued farmer participation in AEM
When Feedback Needed	When compiling watershed AEM data	As available throughout year	Document throughout assessment and planning process
Responsible Party	SWCD	SWCD	SWCD
Desired Results	AEM is more widely utilized by farmers for conservation planning AEM is more widely known by stakeholders and ag community	Agricultural best management practices are recognized by public as good for the community Water monitoring indicates improved local conditions	Farmer implements long term improvements to nutrient management systems

Wayne County AEM Communication Strategy

Purpose	Task	Target Audience	Timeframe	Responsible Person
Increase awareness and educate farmers on the benefits of AEM program in the County	Use contact info. from SWCD office, CCE, NRCS, and FSA to contact farmers and send letters and brochures out and then follow up with phone calls; Newsletter articles in local farming publications, radio announcements, also work with local Farm Bureau and agribusiness offices	Farmers and land owners	Ongoing effort as needed and as opportunities arise	SWCD, CCE, Farm Bureau, Ag Advisory Committee
Educate general public about AEM program	Articles in the local newspapers about AEM; multi-media; displays, brochures at outreach events; provide brochures to other conservation and farm related agencies for distribution	General public	Continue throughout the years at regularly scheduled events	SWCD, CCE, Ag Advisory Committee
Educate Municipal officials and staff about AEM program	Short Powerpoint presentations to the Wayne-Ontario Stormwater Coalition, town planning/conservation boards, WQCC	Municipal Staff, officials and members of the Wayne-Ontario Stormwater Coalition, etc.	As needed and as opportunities arise	SWCD, CCE
Educate Agri-business about AEM program. Promote mutually beneficial relationship of AEM to agri-business, farmer and SWCD	Use SWCD contacts, phone book, internet searches to obtain contact info to send initial letters about AEM and then follow up with phone calls	Agribusiness professionals	As needed and as opportunities arise	SWCD, CCE, Ag Advisory Committee, Farm Bureau, Farmers

Purpose	Task	Target Audience	Timeframe	Responsible Person
Educate and inform DEC about AEM program to get support and get assistance with program promotion	Conduct one-on-one meetings with key SWCD regional contacts to develop this plan	DEC staff and their associates	As needed and as opportunities arise	SWCD
Educate conservation groups about the AEM program so that they can help promote it and educate others on the benefits	Contact groups with letters and brochures and then follow up with phone calls; offer short Powerpoint presentation on AEM	Wild Turkey Foundation, Nature Conservancy, Ducks Unlimited, Sierra Club, Genesee Land Trust	As needed and as opportunities arise	SWCD
Educate and increase awareness of AEM program to local colleges and universities	Use existing SWCD contacts from these institutions to make initial contact, offer students internship opportunities to get involved in program	Staff and students of SUNY Brockport, FLCC, Finger Lakes Institute, RIT, and U of R	As needed and as opportunities arise	SWCD
Increase local awareness of program among local groups i.e. Save Our Clyde River, various Bay Associations	Describe programs at monthly meetings, offer short Powerpoint presentation on AEM, develop additional ways to contact farmers	Watershed committees and other local environmental group membership	As needed and as opportunities arise	SWCD
Share AEM progress with stakeholders	Describe progress of plans, corrective or preventative actions, or types of identified concerns in watersheds	Watershed committees and AEM Work Group members	As needed and as opportunities arise	SWCD

Purpose	Task	Target Audience	Timeframe	Responsible Person
Stakeholders will provide feedback to SWCD regarding AEM progress in watersheds	Provide additional information relating to AEM effectiveness or needs in watersheds	Watershed committees and AEM Ag Advisory Committee	As needed and as opportunities arise	SWCD will solicit feedback from stakeholders
SWCD will respond to stakeholder and AEM Ag Advisory Committee	Adapt AEM Strategic Plan based on progress and information from stakeholders and farmers	Watershed committees and AEM Ag Advisory Committee, farmers	As needed and as opportunities arise	SWCD will solicit feedback from stakeholders