

**PRIORITY AREA ASSESSMENT REPORT**

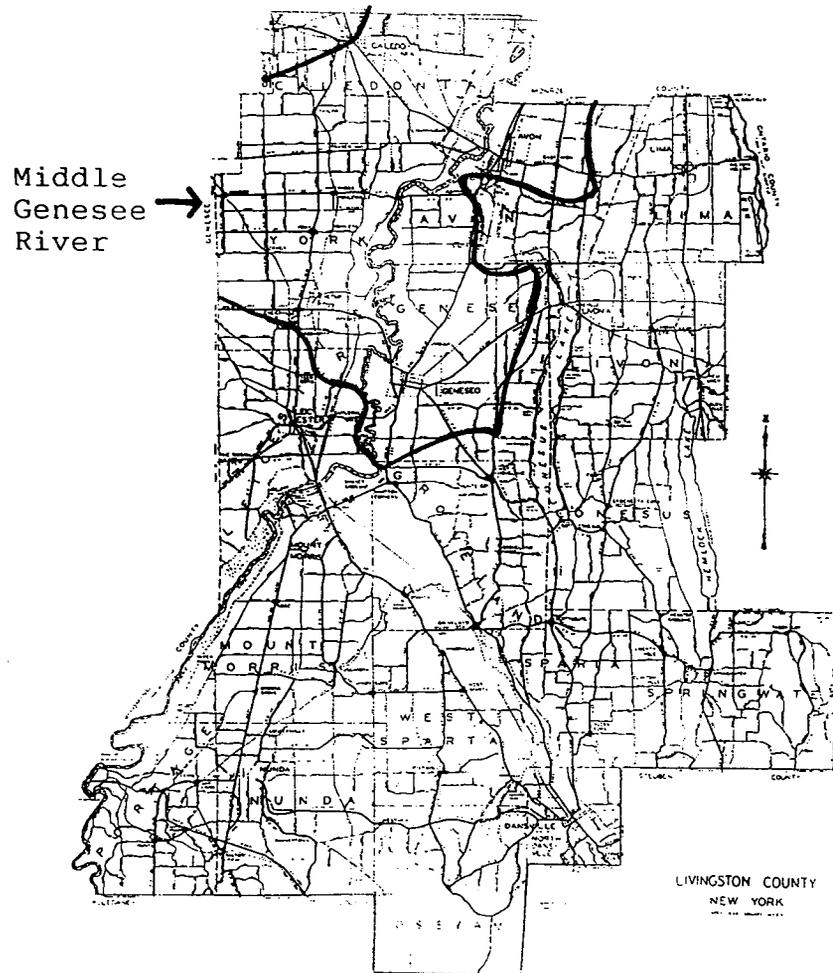
**MIDDLE GENESEE RIVER**

**HUA 4130003.060**

**LIVINGSTON COUNTY, NEW YORK**

**RANK # 1**

**APRIL 1, 1997**



The Local Work Group in Livingston County reviewed the County Resource Assessment and selected the Middle Genesee River Watershed as the # 1 priority area. This watershed was also mentioned in the Livingston County Water Quality Management Strategy, completed August 26, 1992 and appears on the 1996 Priority Waterbodies List by DEC. The Priority Area Assessment Report that follows includes:

- Natural Resource Concerns
- Goals, Objectives and Expected Outcomes
- Existing Assistance Resources Available
- Technical Educational, and Financial Assistance Needs
- List of Practices and Cost-share Rates

## **Natural Resource Concerns**

### **A. Soil**

The soils in the Middle Genesee River Watershed are among the most productive in Livingston County. There is a large area of Palmyra Gravelly loam that is deep, well drained, and very productive in a normal year. These soils tend to be droughty in a dry year. There are also extensive areas of Honeoye, Lima, and Ontario loams and silt loams that are also deep, well and moderately well drained soils that have better water holding capacity than Palmyra. The river valley area itself is dominated by Teel and Hamlin soils that are nearly level, deep, well to moderately well drained alluvial soils that are very productive. The hills that lie just above the valley in portions of York, Avon and Geneseo are mostly Odessa soils, which are moderately well to somewhat poorly drained and are more difficult to work because of texture. They need to be fall plowed if used for crop production. They are also more subject to erosion than other soils. If managed properly, Odessa soils are also quite productive. Most of the soils in the Middle Genesee Watershed are high in lime. Because of the productive soils, 71.7 percent of the watershed is in cropland.

Sheet and rill erosion are a problem on all of the upland soils in this watershed. The Odessa soils are also very subject to gully erosion. Because of the trend towards larger farms, many smaller fields have been combined into larger ones. This has accelerated both sheet and rill and gully erosion. On dairy farms, erosion is less of a problem because of the large amount of hay grown in the rotation. Erosion is a greater problem on cash crop and vegetable farms because of the more intensive rotations. For this reason, more agronomic practices such as cover crops and conservation tillage are required. Stream bank erosion is also a very serious problem on the Genesee River itself. There is very little the individual landowner can do to solve this problem.

Because of the highly productive soils, agriculture is very strong in the priority area. There are 26 dairies in the watershed and most are expanding rapidly. Urban development has been less of a threat to farming because of the strong agricultural economy. There have been recent complaints from non-farm neighbors due to manure odors and run-off. There is a strong demand for farmland, so if a farm does go out of business, it is quickly bought up by a neighboring farm. About 80% of the land in this watershed is enrolled in agricultural districts.

## **B. Water**

At least 75% of Livingston County drains directly through the Middle Genesee Watershed. Many smaller sub-watersheds are located within the area. There are no lakes, but extensive wetland areas are located in the Town of Caledonia. The residents of the Villages of Avon and Geneseo, and many residents of the Town of York get their water from Conesus Lake. Most of the rural residents use ground water (wells) and the Village of Caledonia also uses ground water. There are no sewers in the Town of York, the Village of Caledonia, and for the rural residents of Avon and Geneseo that are within the watershed. There is a growing nitrate problem in Caledonia's water supply. Other private wells are also subject to contamination due to leaching of nutrients and pesticides. The 1996 DEC Priority Waterbodies List and the 1992 Livingston County Water Quality Management Strategy List silt in the water, faulty on-site septic systems, barnyard and manure run-off, and leaching of nutrients and pesticides as serious water quality problems in the priority area.

## **C. Air**

Air quality is generally good in the area, although there have been an increasing number of complaints of odors associated with spreading of manure. At least half of the 26 dairies have manure storages and tend to spread about the same time. This will be a growing problem, as dairy farms continue to expand. There are localized problems with dust in the area caused by tillage operations.

## **D. Plants**

Very few of the dairies in this watershed use pasture, because the soils are too productive for this use, or the dairies are too large. There is some use of pasture for dry cows, heifers, horses, and small beef herds. There are 6333 acres of pasture listed for the watershed, but most of it is located on the Odessa soils above the valley in Geneseo, Avon, and York. It is mostly idle, or used to graze horses, dairy replacements or beef cattle. There are no intensive rotational grazing systems in this priority area. There is an opportunity to plan and implement some systems.

There are over 13,000 acres of forest land in the watershed (14.3%). Most are contained in relatively small, scattered patches on farms. They are very productive and produce some of the highest quality timber in the county. These forest lands have been extensively logged over the years, and can benefit from forest management practices to sustain their productivity.

Riparian areas have been reduced in width over the years as farmers have cleared more and more of the highly productive soils. On some fields, land is farmed to the very edge of the Genesee River and its tributaries. This has contributed to increased siltation in the streams and river, accelerated stream bank erosion, and increased run-off of manure, fertilizer and pesticides. A priority should be to increase riparian areas in the watershed.

There are 3341.1 acres of DEC regulated wetlands in the Middle Genesee River watershed. Most are located in the Town of Caledonia. Most smaller wetlands on farms have been drained years ago and are now cropped. Because of the intensive farming in the area, there is probably not much opportunity to restore wetlands.

There are no threatened or endangered plants in this priority area that the Local Work Group is aware of. (DEC may supply list later)

## **E. Animals**

The Middle Genesee River watershed has the highest concentration of dairy cattle in the county. There are about 9000 milk cows, plus a similar number of dairy replacements. The highest percentage of these cows are located in the Town of York. The trend is for larger dairy farms in the future. It will be common for dairies to milk over 1000 cows. There is also a high number of horses in the watershed, especially near Geneseo. Most of the milk cows are confined to the barn or exercise lot. Barnyard run-off is often a problem because most farmsteads are located adjacent to streams. Manure handling and disposal is a major problem. Most of the dairies utilize huge bunk silos, and leachate from these are one of the most severe water quality problems.

The area has a large deer herd that is dispersed among the small patches of woodland. There are also a growing number of wild turkeys. The area used to offer some of the best pheasant hunting in the county, but numbers have declined dramatically in the last 25 years. Loss of habitat is thought to be a major cause of the decline. Other important wildlife species include fox, coyote, gray squirrel, and raccoon. Fox hunting with horses has long been a popular sport in the Geneseo area.

There are no known threatened or endangered animal species in the area.  
(DEC may supply list later)

## **F. Human**

Agriculture is definitely the most important part of the economy in this priority area. Many of the larger farms have 20 or more employees. There are also many agriculture related support businesses. Several medium size manufacturing companies are located in Caledonia and Avon. Many people are employed by state and local government in the Middle Genesee River Watershed. Geneseo is the county seat and many county agencies are located there. It is also the home to the SUNY at Geneseo.

About 40% of the county's population live in this priority area. Median family income is higher than in most of the rest of the county. Many non-farm residents commute to jobs in Rochester.

There are cultural resources throughout the area, but are concentrated in the Geneseo and Avon area. Many sites are in the river valley and on the hills above the valley.

## **Goals, Objectives and Expected Outcomes**

### **A. Impacts on Natural Resources**

The expected impacts on natural resources in the Middle Genesee River Priority Area are as follows:

1. Manure storage facilities on 75% of the dairy farms (up from present 50%)
2. Waste management, nutrient management and waste utilization plans on 50% of dairy farms.
3. Nutrient management and pest management plans on 25% of the other farms.
4. A 100% increase in the use of conservation tillage systems, such as zone till and mulch till.
5. A 5 to 10% increase in riparian areas.
6. Two intensive rotational grazing systems installed.
7. Practices to control leachate from bunk silos installed on 75% of farms needing them.
8. Forest management practices on 100 acres of forest land.
9. Twenty-five acres of wetland restoration.
10. Practices to benefit upland wildlife installed on 100 acres.
11. Water management and sheet and rill erosion control practices installed that will result in a 25% reduction in the off- field sediment delivery.

### **B. Number and Length of Contracts**

There are 82 farms in the Middle Genesee River Watershed. It is anticipated that about 40%, or 33 farms will be under contract over the next five years. Most of the contracts will average 5 years in length, but some will need to be up to 10 years. The average contract will be about \$25,000. the goal will be as follows:

1997	-	6 contracts
1998	-	8 contracts
1999	-	9 contracts
2000	-	6 contracts
2001	-	4 contracts

### **C. List of Conservation Practices**

The following is a list of 46 conservation practices that will be offered, along with life spans and cost-share rates. It is anticipated that the most frequently used practices will be 194, 362, 561, 393, 590, 595, 329, 558, 585, 620, 359, 633 and 638.

CONSERVATION PRACTICE LIST  
EQIP ELIGIBLE - LIVINGSTON COUNTY

TYPE*	PRACTICE NAME & UNITS	CODE	PAYMENT TYPE	LIFESPAN YRS.	COST-SHARE RATE %	INCENTIVE PAYMENT** (dollars/unit)
s	Access Road (Ft)	560	C/S	10	0.75	
s	Agricultural Waste Transfer (no.)	190	C/S	10	0.75	
s	Animal Trails and Walkways (ft.)	575	C/S	10	0.75	
s	Barnyard Water Management (ac.)	194	C/S	10	0.75	
s	Clearing & Snagging (ft.)	326	C/S	10	0.75	
lm	Conservation Crop Rotation (ac.)	328	Incen	3		5/ac
lm	Contour Farming (ac.)	330	Incen	3		12/ac
v	Cover & Green Manure Crop (ac)	340	C/S	1	0.75	
v	Critical Area Planting (ac.)	342	C/S	5	0.75	
s	Diversion (ft.)	362	C/S	10	0.75	
s	Fence (ft.)	382	C/S	10	0.75	
v	Filter Strip (ac.)	393	C/S	3	0.75	
v	Forest Site Preparation (ac.)	490	C/S	5	0.75	
lm	Forest Stand Improvement (ac.)	666	Incen	3		12/ac
s	Grassed Waterway (ac.)	412	C/S	10	0.75	
s	Heavy Use Area Protection (ac)	561	C/S	10	0.75	
s	Lined Waterway or Outlet (ft.)	468	C/S	10	0.75	
s	Manure Field Piles (no.)	193	C/S	10	0.75	
lm	Nutrient Management (ac)	590	Incen	1		10 or 20/ac
s	Obstruction Removal (ac)	508	C/S	10	0.75	
v	Pasture & Hayland Planting (ac)	512	C/S	3	0.75	
lm	Pest Management (ac)	595	Incen	1		10 or 20/ac
s	Pipeline (ft)	516	C/S	10	0.75	
lm	Prescribed Grazing (ac)	528A	Incen	3		7/ac
lm	Record Keeping (ac)	991	Incen	1		0.25ac
lm	Residue Management, Mulch Till (ac)	329B	Incen	1		12/ac
lm	Residue Mgt., No-till & Strip Till (ac)	329A	Incen	1		12/ac
s	Roof Runoff Management (no.)	558	C/S	10	0.75	
s	Spring Development (no.)	574	C/S	10	0.75	
s	Streambank & Shoreline Protection (ft.)	580	C/S	10	0.75	
lm	Stripcropping-Contour (ac.)	585	Incen	3		12/ac
lm	Stripcropping-Field (ac)	586	Incen	3		10/ac
s	Subsurface Drain (ft.)	606	C/S	10	0.75	
s	Terrace (ft)	600	C/S	10	0.75	
v	Tree/Shrub Establishment (ac.)	612	C/S	5	0.75	
s	Trough or Tank (no.)	614	C/S	10	0.75	
s	Underground Outlet (ft.)	620	C/S	10	0.75	
sys	Waste Management System (no.)	312	none			
s	Waste Storage Facility (no.)	313	C/S	10	0.75	
s	Waste Treatment Lagoon (no.)	359	C/S	10	0.75	
lm	Waste Utilization (ac)	633	Incen	1		10 or 20/ac
s	Water & Sediment Control Basin (no.)	638	C/S	10		
s	Wetland Development or Restoration (ac.)	657	C/S	10	0.75	
lm	Wildlife Wetland Habitat Mgt. (ac.)	644	Incen	3		5/ac
lm	Wildlife Upland Habitat Mgt. (ac)	645	Incen	3		5/ac
v	Windbreak/Shelterbreak Establishment(ft)	380	C/S	5	0.75	

\* Type codes: lm=land management, s=structural, sys=system, v=vegetative  
 \*\*Incentive payment represents a value not to exceed 75% of the actual cost

#### **D. Expected Extent of Concerns to be Treated by Structural or Management Practices**

The following are some of the major resource concerns in the Middle Genesee River Watershed and the percent that will be treated by management and structural practices:

<b>Concern</b>	<b>% Structural</b>	<b>% Management</b>
Sheet and rill erosion	25	75
Gully erosion	90	10
Barnyard run-off	90	10
Manure run-off	50	50
Under utilization of grasslands	25	75
Forest land in need of management	10	90
Run-off of fertilizer and pesticides	25	75
Nutrient and pesticide leaching		100
Bunk silo leachate	75	25
Loss of riparian areas		100
Loss of wetlands & wildlife habitat	50	50

#### **E. Impact on Ability to Meet State and Federal Environmental Laws**

The implementation of the planned conservation practices will allow farmers requesting assistance in the priority area to meet all local, state or federal environmental laws. There will be more regulation in the future that will impact dairy farms, especially as cow numbers continue to grow.

### **Existing Assistance Resources Available**

#### **A. Local Producers**

Farmers in the priority area have always participated in government cost-share programs in a higher percentage than those in other parts of the county. Some of the bestmanagers operate farms in this area and are very interested in complying with environmental laws and sustaining the resource base. They are also generally financially able to assist in the cost of implementing conservation practices because of the strong agricultural economy in the area. With adequate incentives, the local producers in the Middle Genesee River Watershed will be very willing to participate.

## **B. Federal, State and Local Partners**

In addition to the expected EQIP funds, other existing conservation programs that will help accomplish the goals and objectives in this priority area include the Conservation Reserve Program (CRP), Forest Incentives Program (FIP), Wetland Reserve Program (WRP), and Wildlife Habitat Incentives Program (WHIP). Nearly 100% of the farmers in the area participate in USDA programs and have implemented conservation compliance plans to help control sheet and rill erosion. This has not solved all of the problems, and has not addressed gully erosion and water quality problems associated with animal agriculture and run-off and leaching of nutrients and pesticides.

There are a number of agencies and persons in the private sector that will have roles in accomplishing the goals and objectives. The Natural Resources Conservation Services (NRCS) can provide planning and engineering assistance, but staffing levels have been reduced in recent years to a point where it will be difficult to get the job done. The Livingston County Soil and Water Conservation District (SWCD) can provide technical and clerical assistance and assist in taking cost-share applications. They can also assist in the education effort. The Farm Service Agency (FSA) can provide administrative and education support, as well as take cost-share applications. The Cooperative Extension Service (CES) can assist in the education effort and assist producers who wish to implement ICM practices. The US Fish and Wildlife Service (FWS) can assist in planning wetland restoration projects. The NYS Department of Environmental Conservation (DEC) can assist in planning wildlife and forest management practices. They can also refer non-point source complaints to NRCS and the SWCD. The local Farm BUreau can assist by informing its members in the priority area of the programs available. Local government agencies such as the Planning and Health Departments also have a role in informing landowners of assistance available. The private sector can also provide valuable assistance. There are a number of certified crop advisors already working in the area that can help prepare waste utilization, nutrient management, and pest management plans. There are local contractors and engineers that can design and install conservation practices to NRCS specifications.

It is anticipated the NRCS will need a District Conservationist, Soil Conservationist and Soil Conservation Technician to accomplish the goals in this priority area, along with the other two top priority areas. The present staff consists of a District Conservationist. There are the services of a Civil Engineering Technician available, but they are shared with six other counties. The SWCD needs one additional staff year of technical assistance. Present staff consists of a District Manager and one part-time clerk. The District Manager can spend up to 30% of his time on technical assistance. The CES presently has an Agricultural Agent in the county, plus regional crop and livestock specialists that are available. The FSA presently has several program assistants, the County Committee, and the County Executive Director. There may be some disruption of services due to anticipated office consolidations. The DEC has a wildlife biologist, forester, and water quality specialist available to assist.

## Technical, Educational and Financial Assistance Needs

### A. Technical Assistance Funds Needed by NRCS Staff

1997	1998	1999	2000	2001
\$20,000	\$25,000	\$30,000	\$35,000	\$35,000

### B. Educational Assistance Funds Needed

1997	1998	1999	2000	2001
\$4,000	\$4,000	\$3,000	\$2,000	\$1,500

It is anticipated that the first several years will need a rather large educational effort to get the word to producers of what the program is trying to accomplish, and to inform them of the sign-up dates and practices offered. This can gradually be reduced in the last several years, as most producers become familiar with the program. We will need mailings, news articles, group meeting, and individual contacts to educated the producers in the area as to the objectives of the program.

### C. Financial Assistance Funds Needed

1997	1998	1999	2000	2001
\$ 150,000	\$200,000	\$225,000	\$150,000	\$100,000

### D. Training Needed by Non-NRCS Persons

There should not be a lot of training for non-NRCS persons needed. An exception would be for a new SWCD employee. Other agency representatives will need to be informed of the operating procedures, but should be able to pick up the needed information quite quickly. Additional training to contractors in layout and design, as well as contractor check-out procedures will be needed, especially in the first two years. Engineers and crop consultants will also need to be trained in NRCS specifications for ICM, nutrient management, pest management, waste utilization and design of waste storage facilities.

## **E. Cooperative Agreements Needed with Other Agencies**

A cooperative agreement will be definitely needed with the Livingston County SWCD to provide technical, educational, administrative and clerical assistance. Other cooperative agreements that may be needed are with FSA, CES, DEC and the US Fish and Wildlife Service.