

SECTION 8 AGRICULTURE AND FORESTRY

GOAL: Support productive working lands that are part of a healthy landscape.

- Promote economically-viable agricultural practices that minimize soil loss, recycle nutrients, and protect water resources.
- Promote sustainable management of the watershed's forests in a manner that provides flood protection and water quality benefits.

CHALLENGE

Working farms and forests give the Susquehanna-Chemung Watershed its scenic charm and are economic drivers for its rural communities. Agriculture is the leading industry in the watershed, comprising 22% of the land use. About 71% of the watershed is forest land; and forest-dependant industries are a vital part of the regional economy. The recreational and scenic benefits of these working lands also support the tourist industry and the quality of life for residents. In addition, well-managed rural lands provide innumerable “ecosystem services,” such as moderating floods, wildlife habitat, groundwater recharge, and carbon sequestration. Wise use of productive farm land and forests is thus the key to building sustainable communities.



Courtesy of Tompkins County SWCD.

Mismanagement of working lands poses some of the greatest threats to water quality, particularly related to sediment loading, nutrient transport, and applied chemicals (herbicides and pesticides). Steps must be taken to keep soils in their place, ensure complete uptake of nutrients (natural and applied), implement environmentally friendly pest management strategies, and manage runoff from all activities. Because most of the working lands in the watershed are privately owned, management decisions are based on family or business considerations that include—but are not limited to—stewardship of natural resources. Resource professionals have a key role in providing these landowners with technical advice and assistance on the management of their lands. In addition, financial incentives have proven to be an effective means of promoting the use of recommended Best Management Practices (BMPs). Financial support for “ecosystem services” and other public benefits facilitates implementation of agricultural and forest management practices that are both environmentally and economically sustainable.

The greatest challenge facing agriculture is low profitability. The open space and watershed benefits may be lost when a farm goes out of business or chooses not to implement voluntary management practices that protect water quality at the expense of the bottom line. Within the Susquehanna-Chemung Watershed, the TMDL for Chesapeake Bay restoration is seen as a serious threat to the viability of working farms, particularly small animal operations. It is estimated that this program could cost New York farmers \$250-450 million over 15 years for agricultural upgrades. This is in addition to the voluntary steps NY farmers have already taken to reduce and eliminate manure and fertilizer runoff.

Although forestland in the New York portion of the Susquehanna-Chemung Watershed increased nearly 9% (200,000 acres) between 1993 and 2004 (primarily due to abandonment of grazing lands), sustainable management of these forests is a significant challenge. Almost 40% on the forests are classified as “wild land-urban interface,” meaning that the forests occur in small blocks adjacent to developed areas. This pattern develops in areas with large lot residential development. Additional forest fragmentation is likely to result from natural gas development, which will lead to new production facilities, roads, and pipelines in rural areas. Many

of the watershed's forests are family-owned, with a trend toward more forest landowners holding smaller forest parcels. The majority of family forest owners are not currently managing their land or seeking professional assistance. Although technical assistance programs exist, there are property taxes to pay and few incentives for sustainable forest management. The lack of forest management planning or desire to maximize short-term profit often leads to the problematic practice of "cutting the best and leaving the rest" – also known as high grading. This leaves only less fit or poorer quality trees to regenerate the forest, which diminishes the health of the ecosystem, reduces watershed services, and limits future economic returns. The forest composition and health are also threatened by invasive plants, forest pests, and high populations of white-tailed deer (whose selective feeding patterns result in low regeneration rates for many important tree species and other plants).

Agricultural and forest resources in the Susquehanna-Chemung Watershed can support thriving rural communities, contributing to the environmental, social, and economic quality of life. The area can grow excellent, high value hardwoods and a wide range of other products. Strong research and technical assistance programs support steadily improving environmental management practices. Economic opportunities are being created by biofuel projects, developing markets for niche products, income from natural gas, and the potential for increased utilization of forest resources. The working lands of this watershed are a tremendous asset – as long as they are managed in a manner that is both economically and ecologically sustainable.

*“A nation that destroys its soils destroys itself.
Forests are the lungs of our land, purifying the air and giving fresh strength to our people.”
- Franklin D. Roosevelt*

RECOMMENDATIONS

The following suggestions are regional in nature, highlighting some of the many excellent and detailed recommendations presented in other plans and strategies, most notably those developed for the NYS Agricultural Environmental Management (AEM) program, NYS Farmland Protection Program, Resource Conservation & Development Council Area Plans, State of Chesapeake Forests, NYS Forest Resource Assessment & Strategy, and economic development plans that support the agricultural and forest product businesses.

Agricultural Management Practices: Promote sound conservation and management practices to reduce environmental impacts from agricultural activities.

- 8a. Promote research that evaluates the effectiveness of conservation tools and accelerates development and adoption of new conservation technologies. This may include techniques for reducing nutrient losses (into streams and groundwater), controlling erosion, improving soil fertility, managing pests, etc. Priority should be given to research into strategies for reducing the cost associated with achieving environmental objectives. For example, are there forms of agricultural production that are compatible with riparian forest buffers, such as forest products or silvopasturing (woodland grazing for short periods)? Deliver the research findings to farmers.

Immediate action: Support additional agricultural research at Cornell University and other institutions.

Immediate action: Maintain and enhance the strong local technical assistance programs that assist farmers with implementation of recommended management practices. Secure funding for additional staff as needed.

Measure: Number of published studies. Number of workshops. Number of staff providing technical assistance.

- 8b. Use the NYS Agricultural Environmental Management (AEM) program to help farmers identify and address water quality concerns on farms. This voluntary program enables county Soil and Water Conservation District (SWCD) staff to work with individual farmers to assess environmental stewardship, provide technical assistance, and coordinate financial assistance.

Immediate action: Lobby for consistent state funding for the AEM program, as needed.

Measure: *Number of farmers participating.*

- 8c. Ensure professional management of manure from medium and large livestock farms to protect water quality by supplementing the NYS Concentrated Animal Feeding Operation (CAFO) regulatory program with technical assistance (through SWCDs) and financial assistance for BMP implementation (see Task 8d). Explore options for turning CAFO regulatory requirements into profit through participation in water quality certification programs such as the “Chesapeake Milk” model successfully piloted in the Pennsylvania portion of the watershed.



Courtesy of Schuyler County CCE.

Immediate action: Maintain staff resources to enable technical assistance to livestock farmers.

Measure: *Number of regulated CAFOs that participate successfully, without violations.*

- 8d. Provide financial incentives to promote voluntary implementation of agricultural practices that protect water quality through the NYS Agricultural Nonpoint Source Abatement and Control Program, USDA Farm Bill programs, and other funding sources.

Immediate action: Lobby for funding and other improvements to cost-share programs, as needed.

Immediate action: Maintain a strong local implementation team, with close coordination between county, state, and federal agencies.

Immediate action: Secure funding for continued technical and financial assistance through the Upper Susquehanna Coalition Sustainable Agriculture program, which uses AEM to prioritize projects and promotes prescribed grazing techniques, cow exclusion from streams and riparian buffers, nutrient management, cover crops, conservation tillage, barnyard clean water exclusion, and other agricultural BMPs.

Immediate action: Share information about initiatives that promote increased participation in USDA Farm Bill programs through additional cost sharing and technical support (such as the Otsego County Conservation Association program to assume the 25% farmer cost-share for water quality improvement practices).

5-year target: Seek funding to enable reduced farmer costs and additional technical assistance to increase local implementation of USDA Farm Bill Programs, including the Conservation Reserve Enhancement Program (CREP).

Measure: *Number of water quality BMPs implemented through cost-share programs.*

- 8e. Contribute to Chesapeake Bay restoration efforts through voluntary programs and incentives, without increasing regulatory requirements for New York’s farmers.

Immediate action: Continue to promote voluntary implementation of agricultural BMPs for nitrogen, phosphorus, and sediment; document those practices for the Chesapeake Bay Program. Support improvements to the Chesapeake Bay Watershed Model to more accurately represent agricultural sources in New York.

5-year target: Work with the EPA to adjust New York’s pollution load allocations in the Chesapeake Bay TMDL so that they are fair and achievable. If additional agricultural load reductions are required from New York, secure funding for implementation of all required practices.

Measure: *Reduced loads and/or adjusted allocations.*

- 8f. Build partnerships and increase coordination by bringing together farmers, agencies that serve the farm community, lenders, agri-business owners, environmentalists, town officials, and others.

5-year target: Sponsor agri-business forums for sharing of information.

Measure: Number of conferences or meetings.

Farmland Protection: Protect farmlands (which are important to protecting water resources, open space, and scenic resources) by maintaining the viability of agricultural businesses, implementing farmland protection plans, and increasing the sustainability of agricultural practices.

- 8g. Develop, update, and implement local Agricultural and Farmland Protection Plans (with funding from County Farmland Protection Planning Grants).

Immediate action: Maintain active committees to facilitate and coordinate implementation of existing plans.

5-year target: Secure funding to develop plans for counties that lack them and update existing plans as warranted.

Measure: Number of active committees and number of new or updated plans.



Strip cropping (courtesy of Schuyler County SWCD).

- 8h. Building on recommendations in Agricultural and Farmland Protection Plans, develop and enhance programs to purchase or lease development rights on priority farmland (by counties and/or land trusts). This preserves farmland while allowing a farmer to redeem equity in the land. (Leasing is more appropriate for most farmers.)

5-year target: Identify priorities for farmland protection within each county (if not already done) based on locally-developed criteria (such as soils, agricultural productivity, development pressure, etc.). Develop funding strategies and administrative procedures.

Long-range target: Negotiate easements with willing farmers in priority areas.

Measure: Number of farmers participating and acres of priority farmland protected.

- 8i. Maintain a comprehensive network of NYS designated Agricultural Districts throughout prime farming areas of the watershed as a means of both protecting farms and highlighting the value of agriculture.

Immediate action: Each county periodically evaluates whether the most valuable farmland is included in agricultural districts and considers establishment or expansion of districts, if warranted.

Immediate action: When new districts are established or existing districts are up for review and recertification, encourage landowner participation by reaching out to owners of candidate properties.

Measure: Acres of land and number of landowners included in Agricultural Districts.

- 8j. Include agricultural protection mechanisms in municipal land use planning and regulations. Increase the participation of farmers and agri-business owners in town planning boards. (Additional recommendations concerning Smart Growth and open space preservation are included in Section 3, Land Use.)

Immediate action: Provide each County Planning Department with agricultural planning resources for distribution to municipalities. This may include: "Broome County, NY Agricultural Planning Guidelines" and additional information or sample language for: right-to-farm law, agricultural zoning districts, Critical Environmental Areas, Transfer of Density Rights programs (which create private markets that allow farmers to raise capital to continue farming), consideration of agricultural impacts in site plan review, and other information.

Immediate action: Provide planning board training about the value of agriculture and farmland, NYS Agricultural District Law, recognition of agricultural values in Comprehensive Plans, “farm friendly” land use regulations, and other farm issues.

Immediate action: Provide planning assistance, as needed, to municipalities interested in enacting agricultural protection measures.

Immediate action: Encourage towns with significant agricultural activity to appoint agricultural members to planning boards under the authority of §271.11 of Town Law.

Measure: Number of planning board members trained. Number of agricultural members appointed. Number of municipalities employing “farm friendly” planning processes.

- 8k. Strengthen agriculture and agribusiness as a major sector of the economy. Increase the integration of agriculture and agri-business into plans and programs for economic development and workforce development. Implement additional recommendations in county-level plans, which include: development of sustainable and local markets (including markets for niche farm products), coordinated marketing, business training/assistance, tax reform, insurance, promoting agricultural tourism, fostering biofuel development, training/assistance, public relations, attracting value-added businesses, information/assistance regarding gas leasing, and other suggestions.

Immediate action: Support research and information-sharing about environmentally-friendly practices that increase profitability by: reducing costs, increasing yields, supporting development of new crops, promoting diversity (to reduce financial risks), etc.

Long-range target: Implement recommendations in county-level plans.

Measure: Farm revenues and number of profitable farms.

- 8l. Promote environmentally sustainable agricultural practices that incorporate strategies for enhancing biological processes, disease and pest control, anticipating climate change, diversification, intensive small-scale production, using non-traditional agricultural practices, etc.

Immediate action: Support research and information-sharing about strategies for enhancing the long-term sustainability of agricultural operations.

5-year target: Integrate information about adapting to climate change and other sustainable practices into resources for farmers and technical assistance programs.

Measure: Number of studies, educational resources, and training events.

- 8m. Promote local food production and development of a conservation ethic by supporting home gardening and community gardens

Immediate action: Provide assistance and training to support environmentally sustainable home gardening practices.

Immediate action: Publicize existing community gardens to encourage increased utilization.

5-year target: Provide technical and financial assistance with establishing school garden plots.

5-year target: Encourage inclusion of community gardens in local parks and other public spaces by providing each county planning department with resource information to distribute to county departments and municipalities.

Long-range target: Identify and secure funding for development of new community garden sites, management expenses for existing gardens, and garden-based education programs.

Measure: Number of home gardeners receiving technical assistance. Number of community gardens and number of people using them.

Sustainable Forest Management: Manage rural and urban forests to sustain healthy ecosystems, enhance watershed services, and support economic growth. (Additional recommendations related to riparian forest buffers and forest habitat are in Sections 4 and 9, Streams & Rivers and Plants & Wildlife.)

- 8n. Protect exceptional forest resources by identifying and conserving forests that have high environmental, economic, and social value at a landscape scale (such as riparian buffers or priority habitat). Property can be acquired for parks, state forests, or other purposes. Conservation easements can be used to provide willing owners with a financial incentive for retaining and sustainably managing the forest resource.

Immediate action: Identify priority forest lands and secure funding to conserve these resources through acquisition or easements. Conservation easements should only be acquired by land trusts or government entities with the capacity to administer, monitor, and enforce the easement.

Measure: Number of parcels and acres of forest land protected by acquisition or conservation easements.

What is Sustainable Forest Management?

Sustainable forest management considers the entire forest ecosystem—all the parts of a forest—and not just the valuable timber trees. The forest should be managed to promote increased re-growth of new trees and increased diversity. A healthy, diverse ecosystem is better able to adapt to stressors such as invasive species and climate change. A Forest Stewardship Plan can be developed to enable both short- and long-term economic returns, while also protecting the future health of the forest ecosystem, including its wildlife, soil, and water resources.

- 8o. Engage local governments in conserving their forests, reducing forest fragmentation, and enhancing public benefits from trees and forests. (Additional recommendations concerning Smart Growth and open space preservation are included in Section 3, Land Use.)

Immediate action: Provide each County Planning Department with the “Municipal Official’s Guide to Forestry in New York State” for distribution to rural municipalities.

Immediate action: Provide planning assistance, as needed, to municipalities interested in enacting forest protection measures.

Measure: Number of planning boards receiving information. Number of municipalities enacting forest protection measures.

- 8p. Promote professional management of forest resources to enhance forest health and ecological services. This will require cultivation of a long-term stewardship ethic among private forest owners.

Immediate action: Expand outreach and assistance to private forest landowners. Encourage management of family-owned and other private forests and provide assistance with developing Forest Stewardship Plans. Conduct forest owner workshops and provide other training to develop woodlot management skills. Continue to provide property owners and loggers with information about drainage and erosion control practices for timber harvesting (BMP Field Guide).

Immediate action: Support research and information-sharing about preventing and managing nuisance species (such as overabundant deer), invasive plant species, invasive insects and diseases, and wildfire.

5-year target: Establish and fund County Forester positions, as needed, to fulfill the need for forest management training and assistance.

5-year target: Develop and disseminate information that promotes planting of trees that are adapted to future climate conditions. Include these species in SWCD tree sales to replace those that will no longer thrive in this region.

Measure: Number of forest land owners receiving assistance and training. Number of workshops. Number of Forest Stewardship Plans developed. Number of County Foresters.

- 8q. Promote forest stewardship by enhancing the economic viability of well-managed forests and forest products.

Immediate action: Support research and information-sharing about non-timber forest crop products (such as nuts, mushrooms, and fodder).

5-year target: Support efforts to expand markets for wood products, such as development of forest product certification systems and biofuel markets.

5-year target: Support climate change policies that provide financial assistance to private forest land owners for the carbon sequestration value of sustainable forest management.

Long-range target: Improve the Forest Tax Law program (Section 480-a) to reward active forest management and promote greater participation. Promote additional tax reform for forested land and forest income.

Long-range target: Develop and fund incentive and cost-sharing programs that promote and support sustainable forest management practices on private land.

Measure: Number of studies, educational resources, and training events. Forest product revenues. Number of landowners benefiting from reduced taxes and incentive programs.

- 8r. Promote urban forestry programs to plant and maintain healthy trees in developed areas for air and water quality benefits, energy savings, stormwater management, environmental health, and enhanced quality of life.

Immediate action: Provide MS4 municipalities (with regulated stormwater management programs), cities, and villages with information about the green infrastructure benefits of urban forests and strategies for enhancing tree cover in developed areas. Encourage MS4s to include trees and urban forestry in the public information, public involvement, and good housekeeping parts of stormwater programs.

Immediate action: Expand assistance programs, as needed, to help interested municipalities develop or expand urban forestry programs.

Measure: Number of municipalities with urban tree canopy goals or urban forestry programs.

“Acre for acre forest land is the most beneficial land use for protecting water quality, and every loss of forestland contributes to the impairment of the Chesapeake Bay.”
- from “The State of Chesapeake Forests”