TOMPKINS COUNTY CONSERVATION STRATEGY (2012)

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TOMPKINS COUNTY CONSERVATION STRATEGY (2012)

EXECUTIVE SUMMARY

Tompkins County is renowned for its spectacular natural areas, as well as for its vibrant agricultural areas. The County's gorges, parks, rolling farm fields, and Cayuga Lake reflect its heritage and bestow its current day beauty. The Tompkins County Comprehensive Plan (2004) presents a vision of the County for 2025 in which these areas are preserved and enhanced:

> "Rural communities are thriving, in large part due to sustainable use of agricultural and forest resources. … Forest lands are conserved and managed to provide multiple benefits. …, A clean Cayuga Lake is the centerpiece of the community … (and) outstanding natural features, including gorges, stream corridors, lakeshores, forested hillsides, wetlands, and wildlife habitats are protected."

This vision seeks to ensure that Tompkins County conserves its land, rich soils, woods, viewsheds, and clean water – the defining natural characteristics of this community that support a solid rural economy, a tourism destination, and a high quality of life for local residents.

To protect the most important natural resources in the County, the County Comprehensive Plan identified 14 Natural Features Focus Areas (NFFAs). These swaths include a concentration of special natural areas within the Cayuga Lake, Owasco Lake and Susquehanna River watersheds, such as Unique Natural Areas, wetlands, stream corridors, public drinking water resources, Important Bird Areas, and hiking and multi-use trails and trail corridors. The NFFAs were delineated to guide planning efforts and to provide a framework for strategic conservation. The Plan also delineated six Agricultural Resource Focus Areas, which are defined as areas with high concentrations of quality agricultural soils and contiguous, actively-farmed land.

The 2007 *Tompkins County Conservation Plan Part I: A Strategic Approach to Natural Resource Stewardship* (NFFA Plan) looked at the NFFAs in more detail and identified approximately 20,000 acres as priority areas for protection. These areas were identified based on a detailed analysis of the key resources in each focus area and from public and field experts' comments. The 55 identified priority areas include stream corridors and wetlands that play a particularly critical role in habitat and water quality conservation, Natural Heritage Sites, Important Bird Areas, Unique Natural Areas, in-holdings in the State forests, key lands adjacent to State parks, scenic areas along the lakeshore, and trail corridors.

Similarly, the 2010 *Tompkins County Conservation Plan Part II: A Strategic Approach to Agricultural Resource Stewardship* (ARFA Plan) presented a detailed look at each of the six ARFAs that were identified in the Comprehensive Plan. Nearly all of the land in the ARFAs is located within one of the County's two designated agricultural districts and receives agricultural assessment. The ARFAs extend into almost every municipality, comprising 77,295 acres of land, and include 63% of all farm operations in the County. For each of these areas, critical issues were identified and specific actions to support agriculture were stated.

This Tompkins County Conservation Strategy examines the conservation recommendations of these two plans, as well as other County agency and partner plans, and presents a 10-year strategy to conserve critical identified resources. Taking action to protect Tompkins County's natural and agricultural heritage is a challenge that requires a comprehensive approach.The actions identified in this plan rely on coordinated partnerships of the region's many active conservation agencies, organizations and citizenry

The Conservation Strategy identifies eleven (11) key actions to be taken to move the Tompkins County community toward effective conservation of its critical natural and agricultural resources. These actions are to:

* **Prepare a long-range Purchase of Development Rights Implementation Plan to actively market the program to farmers in the ARFAs and identify farms that are suitable for the program.**
* **Conduct a feasibility study for a Transfer of Development Rights Program with interested municipality(ies).**
* **Promote specific land use tools that protect important lands.**
* **Develop an Agricultural Planning Referral Program to help farmers and municipal planning boards conduct agricultural land planning.**
* **Create a pilot program to connect farmers with landowners of agricultural property that is for lease or sale.**
* **Proactively engage owners of land that is located in priority protection areas to participate in long-term conservation programs.**
* **Develop a recreational trail network to support and enhance natural areas.**
* **Promote stream corridor protection efforts.**
* **Develop a program to protect wetlands and aquifer recharge areas in the county.**
* **Develop a program to improve public access to Cayuga Lake and protect scenic views of the Lake and from the Lake.**
* **Create a long-range conservation funding strategy to support land acquisition, purchase conservation easements, and manage and monitor conserved land resources.**

The Conservation Strategy also identifies three emerging issue areas that are presently evolving at the national, state, and regional levels, which may significantly impact the County's important resources. These issues are explored so that they may be considered when establishing local protection goals and measures. The issues are:

- Climate change and adaptation
- Energy supply – particularly transition to renewable energy and natural gas drilling
- NYS regional planning efforts: new Southern Tier Regional Economic Development Council (REDC) strategy and the Cleaner Greener Southern Tier Plan

In conclusion, by proactively implementing the programs and actions identified in this Conservation Strategy with **willing** landowners and **interested** municipalities, the Tompkins County community can move toward conserving its significant natural and agricultural lands over the next ten years. Given current difficult economic times, it is expected that funding for land acquisition or purchase of easements will be limited in the foreseeable future. This restriction of funding calls for creative thinking to move this strategy forward, which we believe is reflected in the actions identified in this strategy. Absent such a strategy, the creep of development and degradation of natural and agricultural resources is likely to get worse, with far-reaching consequences for the local economy, our natural environment and the social cohesion of the community.

INTRODUCTION

Tompkins County is known for its magnificent landscapes and natural havens. Both local residents and visitors enjoy and appreciate Cayuga Lake; gorges, streams, and waterfalls; and our rolling farmland, fields, and wooded hillsides. Many Tompkins County residents also rely on these lands for their livelihood. Increasing rates of land development threaten to fragment and transform the landscapes we value, undermine our natural resources including agricultural soils and water, and degrade the economic, recreational, and aesthetic benefits of those landscapes. If we wish to continue to enjoy these features of our community and sustain the benefits they provide, landowners, public agencies, private organizations, and local governments need to work together.

Good land stewardship, and the strong connection between landowners and their lands, provides a strong foundation for long-term preservation of the natural resources and working landscapes we value. Individual and highly localized efforts, however, cannot fully address the need for an integrated, community-wide, and strategic approach to protecting and managing these lands.

New challenges, such as increasing development and invasive species, suggest that a more coordinated approach that spans property lines, watersheds and municipal boundaries is necessary. This is why protection and management of key natural and agricultural resources in Tompkins County is a high priority action item, as identified in the Tompkins County Comprehensive Plan (2004). The Comprehensive Plan identified 14 Natural Features Focus Areas containing concentrations of outstanding natural features in the County as well as six Agricultural Resource Focus Areas representing the greatest concentrations of both high quality agricultural soils and viable farming operations in the County.

In order to protect and preserve the resources within these focus areas, the County prepared the County Conservation Plan, developed in two parts, which examined first the natural resources within the County in the Natural Features Focus Area Plan (NFFA Plan) and then the County's critical agricultural resources in the Agricultural Resource Focus Areas (ARFA Plan). The Conservation Plan presents current conditions and trends for natural and agricultural resources, identifies critical issues and opportunities, provides a toolbox for conservation, and lays out strategies to secure these resources. This Conservation Strategy identifies eleven key actions to move the Tompkins County community toward effective conservation of its critical natural and agricultural resources. Background and findings for each of these plans can be found at the end of this strategy, beginning on page 12 of this document.

CONSERVATION PROGRESS

CONSERVATION SUCCESS STORIES IN TOMPKINS COUNTY (2006-present)

Since 2006, when the Conservation Plan process started, several policies and projects have been successfully implemented in support the conservation goals of the County Comprehensive Plan. Many have been achieved through partnerships across Tompkins County. Some of the most notable of these are:

- Four Tompkins County farming families are actively protecting and conserving more than 1,800 acres of their farmland through the NYS Department of Agriculture and Markets' Farmland Protection Implementation Program. These farms are located in the Towns of Lansing, Dryden, and Ithaca. Two additional farms in Dryden, encompassing an additional 800 acres, are in process of joining this program.
- The Finger Lakes Land Trust has partnered with municipalities, state, and federal agencies, individual landowners and donors, to protect approximately 540 acres in five nature preserves and two conservation areas in the County. Many conservation easements have also been established to protect other natural areas and portions of the Finger Lakes Trail.
- Tompkins County has utilized both the land foreclosure process and the County Conservation Fund to protect 10 properties that contain critical environmental attributes. In most of these cases, the County partnered with other local entities, such as the Towns of Ithaca and Dryden, Cornell University, and the Finger Lakes Land Trust, to place conservation easements on land containing key resources.
- Tompkins County developed a model stream buffer program in 2007 to promote protection of stream banks thereby supporting stream water quality. A model ordinance, easement, buffer agreement, and planting guides were developed in 2009. These tools have been successfully utilized to protect, plant, or enhance 12,185 linear feet of stream edge.

ELEVEN KEY STRATEGIES FOR CONSERVING CRITICAL COUNTY RESOURCES

This Conservation Strategy proposes an integrated approach to resource protection, by identifying critical actions to guide the Tompkins County community to conserve the agricultural viability of valuable farmland and protect the priority natural areas in Tompkins County. Many of the actions identified below will require significant decisions about budget priorities and trade-offs between community costs and benefits. The cost effectiveness of each action will have to be evaluated at the time of implementation, due to the unpredictability of crucial factors beyond the control of local entities, such as state funding for conservation programs and property values. The focus of this plan is to make early progress to conserve key resources over the next 10 years. The programs and actions described below are designed to have Countywide impact and will be led by established County agencies or identified partners working with willing landowners and interested municipalities.

1. Prepare a long-range Purchase of Development rights implementation plan to actively market the program to farmers in the ARFAs and identify farms that are suitable for the program.

Purchase of Development Rights (PDR) is a land protection tool that pays landowners to protect their land from development. In an effort to preserve active agriculture, rural character, and scenic viewsheds, municipalities may work cooperatively with land trusts, the County, New York State and the Federal Government to buy development rights and create conservation easements that limit development. To date, PDR has been used successfully in Tompkins County to protect the agricultural resources on a handful of farms in the Towns of Lansing, Dryden, and Ithaca. It should be noted that the funding of PDR programs has occurred through the assistance of Federal, State and local government funding streams. Future opportunities for funding these programs will depend upon program budgeting from each of these sources.

When considering PDR as an agricultural protection strategy in Tompkins County, the following set of criteria can help guide efforts to determine the highest benefit of protective actions and to allocate local or State funds for agricultural protection. Selected farmland should exhibit:

- High concentrations of Prime Soils and Soils of Statewide Significance;
- An area with contiguous, active farmland;
- Minimal small lot subdivisions dividing the land base;
- Natural resources that have been identified for protection, where protection would afford multiple benefits on or adjacent to the property.

Additional criteria may include:

- Areas situated in locations with encroaching residential development or adjacent water/sewer infrastructure, suggesting development pressure; and/or
- Farms sited at the edge of a developed area, which might serve as a natural boundary between development and agriculture.

Land protection through PDR takes place exclusively through the voluntary participation of landowners. Therefore, it is necessary to be flexible in developing priorities for protection, based on the interests of landowners.

2. Conduct a feasibility study for a Transfer of Development Rights Program with interested municipality(ies).

Transfer of Development Rights (TDR) is used primarily to protect agricultural land by transferring the development rights from the farm area to another area the community wishes to see developed more densely. It protects land in conservation areas while allowing for higher density in appropriate areas. In order to work, there must be clear sending and receiving areas and an active market for development.

This could occur by placing a conservation easement on a property in one of the six designated ARFAs while simultaneously permitting an increase in development density (density bonus) within a target area – ideally a Development Focus Area nearby (see the Tompkins County Development Focus Area Strategy (2012)). The cost of purchasing easements would be recovered from developers that receive density bonuses.

A feasibility study would require outreach to municipalities in Tompkins County to gauge interest in participating, analysis of municipal land use regulations to determine applicability of the program, and grant writing to support the launch of a TDR program in an interested municipality(ies). Conducting a TDR feasibility study with interested municipalities could help to clarify the opportunities and limits locally for this complex protection tool.

3. Promote specific land use tools that protect important lands.

A few specific municipal regulatory tools can be effectively used to conserve critical areas, including conservation subdivision, agricultural protection zoning, and stream buffer ordinances. Based on New York State land use law these tools can only be implemented by interested town, village or city governments.

Subdivision ordinances govern the division of larger parcels into smaller pieces of land. These laws provide a town planning board with the authority to review and make decisions about proposed subdivisions to protect public interests and to ensure that new subdivisions do not accelerate flooding and erosion, traffic problems, and other negative impacts to a town. A conservation subdivision is a residential subdivision in which a substantial amount of the site remains as permanently protected open space while the homes are located on the remaining portion of the site. Under this approach, the community works with the applicant to fit the development into the landscape in a way that maximizes the protection of important natural and cultural amenities on the site and maintains the character of the community.

Some zoning ordinances provide protection and support for agricultural and conservation areas by restricting residential density. In agricultural areas zoning may also promote right-to-farm provisions, and authorize commercial agricultural activities, such as farmstands, that add to farm profitability. Agricultural protection zoning can stabilize the agricultural land base by keeping large tracts of land free of non-farm development and promoting conservation of contiguous agricultural land. Conservation zoning can allow for limited development while conserving major natural features and resources. Both can work hand in hand with conservation subdivision ordinances.

The County Planning Department has developed a model stream buffer ordinance, which is described in more detail in strategy having to do with stream buffers, below.

4. Develop an Agricultural Planning Referral Program to help farmers and municipal planning boards conduct agricultural land planning.
Interviews conducted with farmers and municipal officials when developing the ARFA Plan found that both groups expressed a need for additional support in agricultural land planning. This included farmers who wished to subdivide their land in a way that supported the long-term viability of their agricultural operation and planning board members who may need to have a better understanding of these issues when reviewing plans and proposals.

This program could address those needs by offering free short-term consulting to those groups, from County agency representatives and area expert partners, as appropriate. Program development would include discussion with existing farmer-support agencies to better define the program, review of expertise among program staff to identify any training needs, development of outreach and program materials, and marketing the program to the farm community and municipalities.

5. Create a pilot program to connect farmers with landowners of agricultural property that is for lease or sale.
Rental lands are an important component of agricultural production, as almost 1/3 of all actively farmed land within the six County ARFAs is leased. Farmers in the ARFAs expressed a need for a coordinated farm-leasing program through the development of a formal listing of both active and inactive available farmland.

Interviews with farmers who operate farms that include owned and rented farmland or who have operations comprised solely of rental lands have indicated an increased demand for leased land in the County by both local existing farmers, new and hobby farmers, and out-of-County farmers As many of the local farming families lack a successional farming generation, shifts in agricultural land ownership should be anticipated. Often at the time land is offered for sale, the highest bidders may not be farmers and interested farmers may not have had time to plan for an opportunity to purchase needed land. Providing farmers with information for planning and identifying lands that are located nearby and offer the necessary attributes for their farm operations could create more opportunities for advanced planning that would keep working lands in agriculture and farmers farming. Developing this as a short-term pilot program would enable partners to gauge interest and, if useful, investigate methods for sustaining it. This pilot program may be most useful and effective if implemented on a regional basis, through collaboration with adjacent counties. The Farm Services Agency (FSA), Cornell Cooperative Extension of Tompkins County (CCETC) and the Tompkins County Department of Assessment have been involved in efforts to link farmers with available agricultural land and may be partners to assist in implementing this action.

6. Proactively engage owners of land that is located in priority protection areas to participate in long-term conservation programs.
Outreach to landowners located in key areas of the ARFAs and NFFAs to consider participating in conservation programs is a proactive strategy to engage residents in direct conservation efforts. Protecting natural areas, especially forestland, wetlands, aquifer recharge areas, and streams, is often accomplished through voluntary easements or land donations. An alternative option for lands that are deemed most critical for protection is acquisition of the priority parcels identified in the NFFA plan.

Conservation programs, such as those managed by the Finger Lakes Land Trust, include conservation easements, outright acquisition, and shared acquisition with local municipalities. A conservation easement is a voluntary agreement to protect land in perpetuity, with a commitment to protect the existing character of the property. A conservation easement can be given to a qualified non-profit, a municipality, or state agency for holding and for providing routine monitoring as part of stewardship management. It is an

effective and flexible tool that allows landowners to keep their land, enjoy it and use it, and protect it into the future.

Some other short-term conservation opportunities include USDA's Natural Resources Conservation Service (NRCS) and FSA programs, which may have potential for permanent easements as well. To engage farmers considering conservation of their land, it may be useful to work in tandem with the NYS Agricultural Environmental Management Program (AEM). The AEM program is of particular note, as participation in the program is required for those farms interested in being eligible for federal and state conservation programs and the associated cost share.

Developing a strategic land acquisition program for the priority protection areas in the NFFAs could allow for quick decision making about land protection as opportunities present themselves in the future.

7. Develop a recreational trail network to support and enhance natural areas.

Identifying potential and current trail corridors for protection and expansion that would connect natural areas and open spaces and provide important recreational opportunities in Tompkins County is a County priority. Opportunity areas are identified in several municipal and County plans, including the Tompkins County Conservation Plan, municipal Comprehensive Plans, and cross-agency plans such as the Route 96 Corridor Management Study.

While local transportation authorities are focused on developing multiuse trails that can become part of an interconnected trail network that provides alternative transportation options in the County, this strategy focuses on hiking and walking trails that are intimately tied to the natural areas in which they are found. Ideally, these two systems will connect and intersect in many parts of the County to provide greater access and recreational opportunities.

The goal of this program is to work with willing landowners and municipalities to protect and enhance trail corridors that provide access to natural areas in the County, link protected lands, and reclaim inactive railroad beds for recreational use with the long-term goal of creating new connections among these protected corridors.

The Finger Lakes Trail would be a priority trail corridor for protection under this program. The *Finger Lakes Trail Corridor Protection and Enhancement Plan* (2009) was developed to help protect and enhance a 78-mile section of the trail that passes through the "Emerald Necklace", a crescent of forest lands that stretch in an arc around the City of Ithaca through Schuyler, Seneca, Tompkins, and Tioga Counties from the Finger Lakes National Forest in the west to Hammond Hill State Forest in the east. The vision is for a Finger Lakes Trail located within a permanently-protected corridor, in a scenic, off-road setting with easy, visible access and clearly interpreted routes. The public forests and preserves that form the backbone of the Emerald Necklace would be enhanced by the strategic voluntary acquisition of land or easements on key properties with high natural resource and scenic values. Trail protection work would be coordinated with organizations that are actively advancing such efforts. In terms of the Finger Lakes Trail, the Finger Lakes Trail Conference is one such potential partner.

8. Promote stream corridor protection efforts.

The *Benefits of Riparian Areas and Stream Buffers* report developed by Tompkins County in 2009 documents the role that forested stream buffers and riparian areas play in protecting water quality, stabilizing water channels, enhancing ecological diversity, and providing financial benefits. Tompkins County has also developed tools to assist willing landowners and interested municipalities in protecting and restoring stream buffers. This includes a stream buffer planting guide, which identifies how and what to plant in the stream buffer; a riparian protection agreement for municipal/landowner collaboration; a riparian buffer easement to protect riparian corridor restorations; and a model stream buffer ordinance that recommends a 100-foot stream buffer on either side of perennial streams. The recommended buffer area is composed of two parts: a natural vegetative buffer of 50 feet from the stream edge, and a more permissive buffer that extends 50 feet upland of the vegetative buffer.

Promotion of the County's program can be supported by programs like USDA Conservation Reserve Enhancement Program that helps farmers implement stream buffers by paying annual rent for land set aside for buffers. This program also pays for infrastructure costs, such as fencing to keep animals out of streams, provides alternative watering sources for the animals, and stabilizes stream crossings where necessary.

Potential partners identified to achieve this goal include local municipalities; New York State Department of Environmental Conservation (NYS DEC); USDA Farm Services Agency and Natural Resources Conservation Service; and Tompkins County Soil and Water Conservation District.

9. Develop a program to protect wetlands and aquifer recharge areas in the County.

Similar to the Stream Buffer Protection Program, there is a need to develop a program specific to wetlands and aquifer recharge area protection. The goals of this program would be to first identify and compile a complete list of smaller wetlands Countywide (<12.4 acres in size), in order to develop a comprehensive wetlands list that would include these small wetlands as well as NYS DEC Freshwater Wetlands (as determined by the DEC) and National Wetlands (as determined by the United States Fish and Wildlife Service (USFWS). For wetlands identification, some County municipalities have created municipal inventories, which could serve as models for other interested municipalities to successfully complete this activity. Aquifer recharge areas require further investigation to identify the extent necessary for protection by regulation. Once both wetlands and aquifer recharge areas are fully identified and delineated, protection mechanisms could then be developed and systematically promoted, based on importance of these resource areas to water quality and quantity (including drinking water) and aquatic/riparian habitat. Potential partners identified to achieve this goal include the United States Geological Survey, USFWS, NYS DEC, FSA, NRCS , and local municipalities.

10. Develop a program to improve public access to Cayuga Lake and protect scenic views of the Lake and from the Lake.

Cayuga Lake, the longest the eleven Finger Lakes, is striking in its beauty, is widely used as a source of drinking water and recreation, has influenced the area's historical development, and continues to this day to help define the community's sense of place. To preserve and enhance Cayuga Lake's value to the people of Tompkins County, it will be necessary to maintain important scenic views, increase and improve public access to the lake, and improve its water quality. As water quality is addressed through various other plans and studies, this resource conservation strategy focuses on the other two attributes that require protection.

Public waterfront access and recreational opportunities
Cayuga Lake suffers from a lack of sufficient public access points. Though Stewart Park and Treman State Park in the City of Ithaca offer direct connection with the Southern portion of the lake, and Taughannock Falls State Park and Myers Point are noted parks that provide access on the west and east sides, respectively, more access is needed. Working with municipalities to identify parcels with the potential to provide a variety of access opportunities to the public is a priority. The Blueway Trail plan that is a multi-county project underway between Tompkins, Cayuga, and Seneca Counties, is working to identify a trail and access system that will promote and support non-power boaters access to Cayuga Lake.

Scenic views
To preserve scenic views from and of the lake, it is important to reduce the visual impact of development along the lakeshore. One means may be to assess the feasibility of establishing tree conservation, tree ordinances, design guidelines, and building height regulations as part of this effort. Currently, many of the scenic views are best seen from roads, specifically along the Cayuga Lake Scenic Byway, which provides lake scenes when entering the County. There is a need to establish scenic view pull-off sites to appreciate these safely.

11. Create a long-range conservation funding strategy to support land acquisition, purchase conservation easements, and manage and monitor conserved land resources.

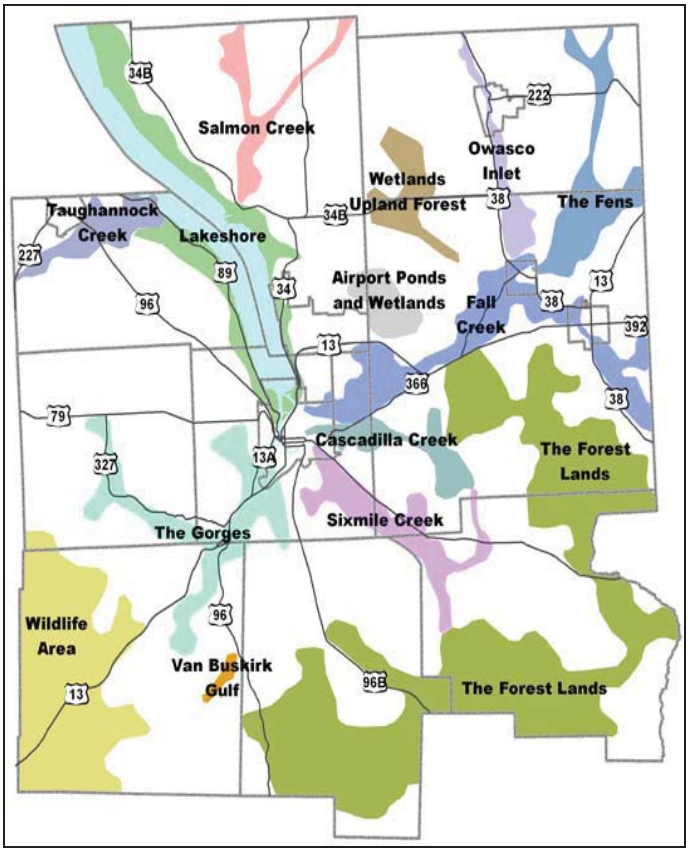
There is a growing need to identify both public and private funding mechanisms that can support and extend conservation opportunities in Tompkins County. Partnering with local, State and Federal government, and conservation entities, as well as private landowners, residents and farmers, will be necessary to create a long-range strategy that includes a palette of options to be utilized for land acquisitions and purchase of easements for both agricultural and natural areas. Management, monitoring, and information sharing are all support functions necessary to ensure continued high quality of natural resources once they are preserved.

The conservation of both agricultural and natural lands calls for a long-term commitment of resources that extends beyond the recording of a conservation easement or the establishment of a nature preserve. It is vital that both public and private institutions involved in land conservation provide for adequate staffing and other resources to ensure that easement agreements are upheld; that easement holding entities have the capacity to sustain meaningful partnerships with successive generations of landowners; and that conservation agencies are able to deal with emerging threats to our natural resources, including non-native, invasive pest species, excessive deer browse, and impacts of climate change.

CONSERVATION PLAN BACKGROUND

Tompkins County Conservation Plan Part I: A Strategic Approach to Natural Resource Stewardship (NFFA Plan)

The NFFA Plan was completed in 2007 to implement recommendations of the Comprehensive Plan. Its findings urged a focus on conservation efforts to promote the protection of the most environmentally sensitive areas and the unique natural gems that define this community, as well as to preserve contiguous habitat, expansive recreation corridors, and blocks of viable working forests. The 14 NFFAs, delineated based on the location and concentration of natural resources, such as Unique Natural Areas, wetlands, stream corridors, public drinking water resources, Important Bird Areas, and hiking and multi-use trails and trail corridors, are named and mapped below:



Natural Features Focus Areas (NFFAs):

- Taughannock Creek
- Lakeshore
- Salmon Creek
- Airport Ponds and Wetlands
- Wetlands Upland Forest
- Owasco Inlet
- The Fens
- Fall Creek
- The Forest Lands
- Cascadilla Creek
- Sixmile Creek
- The Gorges
- Van Buskirk Gulf
- Wildlife Area

The NFFA Plan evaluated the County's natural features, in order to define and understand the benefits that each of these resources provides to our community. By identifying these vital benefits, conservation challenges and opportunities were revealed. The nine primary benefits that were assessed in each of the NFFAs were:

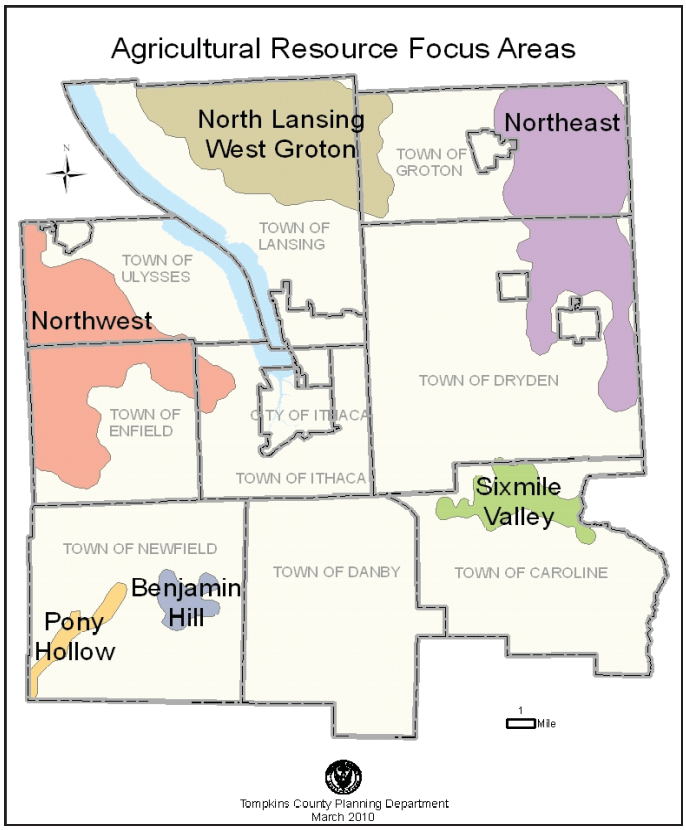
- Critical habitat and biodiversity
- Education and research
- Fishing
- Hunting
- Outdoor recreation
- Sustainable timber harvesting and agroforestry
- Sustainable agriculture
- Scenic views
- Water quality and flood mitigation

The purpose of compiling information about key benefits and associated issues was to provide landowners, public agencies, private organizations, and municipalities with a valuable resource to use in their efforts to make informed decisions about land management and protection. This information was also instrumental in identifying key actions needed to sustain and enhance the benefits that each NFFA provides.

The NFFA Plan includes individual plans for each of the 14 identified areas along with detailed information about each area's unique characteristics. It also outlines a tailored approach for implementing conservation in each area, with specific attention given to 55 identified priority protection areas.

Tompkins County Conservation Plan Part II: A Strategic Approach to Agricultural Resource Stewardship (ARFA Plan)

The 2010 ARFA Plan acknowledges that while working farms can be found throughout Tompkins County, six particular areas are recognized as being strategic for land intensive agricultural uses. These Agricultural Resource Focus Areas (ARFAs) were identified in a 2002 Countywide study and are defined as areas with high concentrations of quality agricultural soils and contiguous, actively-farmed land. Nearly all of the land in the ARFAs is located within one of the County's two designated agricultural districts and receives agricultural assessment. The ARFAs extend into almost all of the towns in Tompkins County and include 63% of all farm operations in the County. The six ARFAs are depicted in the map below:



Agricultural Resource Focus Areas (ARFAs)

- Northwest
- North Lansing-West Groton
- Northeast
- Sixmile Creek Valley
- Benjamin Hill
- Pony Hollow

The ARFA Plan examines each of these six identified agricultural areas and presents background about the local area and its farming; geography, including topography, soils and natural features; local influences, including local laws in place that protect or hinder farming, as well as the existence of water/sewer infrastructure in the area; farming statistics, land use trends, and status of development pressure; input from local farmers about their farming area; and the summary of area-specific critical issues; and proposed actions. The ARFA Plan presents a statistical overview for the ARFAs as well as specific Countywide actions to preserve agricultural resources and a toolset to support successful action.

CONSERVATION PLAN FINDINGS

Conservation Plan: NFFA

The Plan identifies multiple threats to the primary benefits provided by the natural resources of the NFFAs. Protection and management issues were identified based on interviews with local, regional, and state agencies; review of relevant local and regional conservation plans; and using web-based environmental data sources. This resulted in several major protection and management themes:

- ***Fragmentation of the landscape*** undermines habitat, forestry, and hunting opportunities. Maintaining large blocks of contiguous open space is critical for sustaining viable wildlife populations. Commercial forestry also benefits from larger connected tracts of forests, and hunters rely on large areas of undeveloped land for safe hunting opportunities. Another unintended consequence of fragmentation is the explosion of the local deer population. Deer favor lush suburban landscape, intermixed forest and edge plant communities that increase across a fragmented landscape.

- ***Water quality*** is critical for drinking water, recreation, habitat, and fishing opportunities. When water quality is degraded it becomes more expensive to purify water for drinking, fish populations decline and fish species composition changes, and public swimming areas are threatened. Stream buffers play a particularly critical role in protecting water quality and are an important part of the natural landscape. Aquifer recharge areas also play a vital role in providing drinking water.

- The ***filling and degradation of wetlands*** is another critical issue that affects water quality, flooding, and habitat. Wetlands are nature's filters and sponges. The loss of these key areas represents a dramatic change in the environment – one that has repercussions throughout a watershed and region.

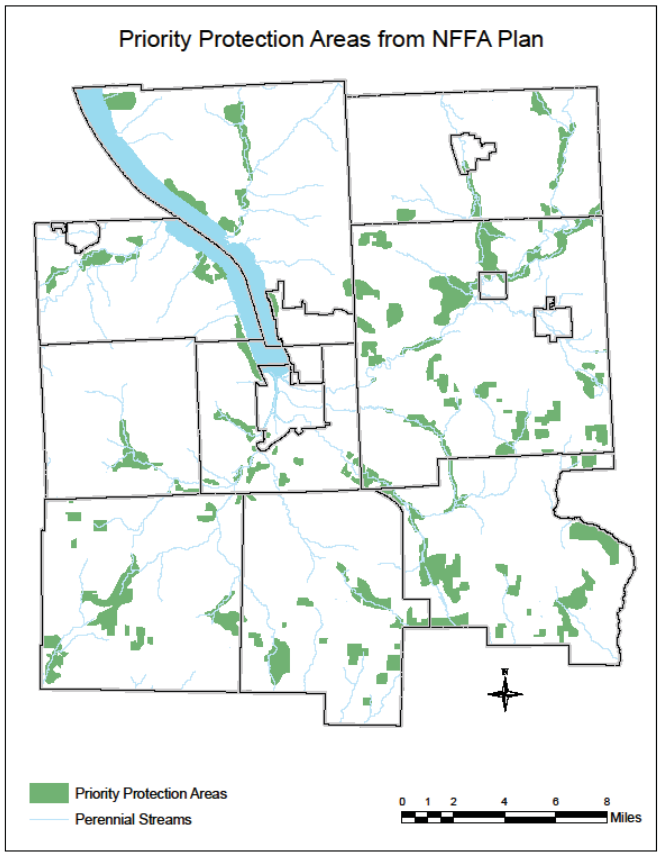
- ***Scenic views and tranquility*** can be undermined by development that is poorly sited. Tompkins County is well known for its scenic qualities and recreational amenities. These benefits support our thriving tourism industry and contribute to the quality of life of residents.

- Although there are many ***recreational opportunities*** in Tompkins County, several issues limit access and threaten the future of these amenities. Lack of signs, maps and limited parking restrict access to the numerous trails in Tompkins County. Access to one of the major recreational amenities, Cayuga Lake, is limited and additional public access points are needed. The future of the Finger Lakes Trail is precarious. While portions of the trail are located on public land, most of it is located on private property with only informal and revocable permission granted by local landowners.

- ***Biodiversity is threatened*** by invasive species, development, and fragmentation. A variety of habitats require special management and protection. Grassland habitat, for example, benefits from modified mowing practices. Vernal pools and fens are particularly sensitive to development and are some of the most diverse and interesting habitat areas in the County.

To protect the most important natural resources in the County, approximately 20,000 acres have been identified as priority areas for protection over the next 20 years. These areas were identified based on a detailed analysis of the key resources in each focus area and from public and cross-agency comments. The 55 identified priority areas include stream corridors and wetlands that play a particularly critical role in habitat and water quality conservation, Natural Heritage Sites, Important Bird Areas, Unique Natural Areas, in-holdings in the State forests, key lands adjacent to State parks, scenic areas along the lakeshore, and trail corridors.

The priority protection areas, along with trails and perennial stream corridors, are highlighted on the Priority Protection Areas Map (below). The NFFA Plan recommended that the 55 priority areas be the focus of future protection efforts. A future connection between Robert H. Treman State Park and Connecticut Hill Wildlife Management Area is also generally identified on the map as a priority area. In addition, trails and stream corridors provide important connections, water quality benefits, and recreational amenities so should be protected when opportunities arise.



Conservation Plan: ARFA

Tompkins County farms are vital to the local economy, food supply, and sustainability. Agriculture in Tompkins County is in a period of significant transition. The number of dairy farms has declined significantly over the years, and though it remains the predominant farming activity in the County, there is growing variety in the types and sizes of farm operations found in the County. Farmers in Tompkins County are more likely to be employed in part-time farming rather than full-time. A significant portion of land that was actively farmed 40 years ago is no longer in agricultural use and an increasing amount of farmland is leased. Other farming activities and practices such as organic farming, hobby/niche market farming, and sustainable farming techniques are redefining farming in some areas.

- ***Dairy farming is in transition*** in Tompkins County. Though this type of farming utilizes more land than any other farm operation type, the number of total dairies has dropped substantially in the past 30 years in all ARFAs except for the Northeast and North Lansing-West Groton ARFAs that are situated adjacent to Cayuga and Cortland Counties – regional dairy powerhouses. This cluster of large and mid-sized successful dairies seems to have solidified dairy's future in these two areas. In addition, organic dairying has made inroads in both of these ARFAs. Tompkins County's six active organic dairy operations are all located in these two ARFAs. In 2007, there were 63 dairy operations in the County.

  The overall decline of small, family-run dairy farms has had direct repercussions on farming as a full-time occupation in Tompkins County. Today, almost all full-time farmers work lands associated with the remaining dairies. Part-time farmers typically raise crops or animals, work full-time off the farm, and/or are hobby farmers that are starting up enterprises on the side.

- Though there has been substantial ***loss of active agricultural land*** across all ARFA since 1969, the majority of land removed from agriculture has been marginal in nature. Generally, this has not had much of an impact on agriculture, as the best lands have remained part of the agricultural base of the County. However, in the northern portions of the County (both east and west), some agricultural parcels are under growing development pressure and are susceptible to loss of farmland and conflicting land uses. Farmland located on State highway frontage (State Routes 13, 79, 96, and 34) has high visibility and access, making it inherently vulnerable to development pressure.

- In Tompkins County, the 29% of actively farmed ***leased farmland needs to be kept available for agricultural use.*** Leased farmland in Tompkins County is in demand by both existing farmers that are seeking to expand operations with supplemental support lands as well as by new farmers. New farmers often cannot afford the start up costs of land, operations, and equipment and therefore must rent to break into farming. The increase in leased agricultural land is impacting both farmers and agricultural resources. Leased farmland is, by its nature, a less stable component of the agricultural base than owned farmland., There is less certainty that a landholder will keep leased land in agriculture, and farmers of leased land are less likely to invest in costly infrastructure improvements and conservation measures, such as fencing, field tiling, and manure storage, that have long payback periods.

  Finally, the growing proportion of leased farmland further extends the checkerboard pattern of farm operations throughout the County. Farmers seek available land wherever they can find it, primarily in the vicinity of their current farm operations, but rarely contiguous to the working lands of a given farm operation. This non-contiguous pattern has spawned greater interaction and conflict between the farming community and growing residential development, particularly in terms of traffic and farm practices.

- There is noted ***growth in non-traditional farming*** endeavors in the ARFAs of Tompkins County. Examples include organic crop farming of grains and vegetables in Benjamin Hill and Northwest; organic dairies in North Lansing-West Groton and Northeast; horse farming in Benjamin Hill, Sixmile Creek Valley, and Northwest; no-till farming techniques in Pony Hollow and Benjamin Hill; and green roof materials and viticulture (grape cultivation) in the Northwest. Farmers in several ARFAs are considering incorporating alternative energy crops into their crop rotations. A group in the Towns of Danby and Caroline (outside the ARFA areas) have developed an owner cooperative to begin pooling resources to create a biomass market in Tompkins County, largely on abandoned farmland.

The following table presents a snapshot of the ARFAs from 2007.

Agricultural Resource Focus Area (ARFA) Statistical Summary Table

	Northeast	North Lansing - West Groton	Northwest	Benjamin Hill	Pony Hollow	Sixmile Creek Valley	TOTAL
Total ARFA Acreage	25,234	21,680	21,522	2,155	1,930	4,774	77,295
# of Farm Operations	59	52	67	12	4	19	213
Total Farm Operation Acres (active+inactive agricultrual land)	16,590	15,467	13,197	1,584	1,702	3,389	51,929
Average Farm Operation Size (acres)	281	297	197	132	426	178	AVERAGE 244
% Total of ARFA in Active Agriculture, 2007	52%	55%	49%	56%	44%	47%	AVERAGE 52%
% Loss of Agriculture Land (active + inactive), 1969-2007	24%	16%	23%	19%	9%	25%	AVERAGE 21%
% Owned; % Leased Farm Operation Acres	72% owned; 28% leased	66% owned; 34% leased	78% owned; 22% leased	56% owned; 44% leased	100% owned; 0% leased	55% owned; 45% leased	AVERAGE 71% owned; 29% leased
% Prime Soils; % Soils of Statewide Significance (SOSS)	9% Prime; 57% SOSS	43% Prime; 22% SOSS	35% Prime; 30% SOSS	1% Prime; 73% SOSS	37% Prime; 28% SOSS	21% Prime; 40% SOSS	AVERAGE 27% Prime; 38% SOSS
Estimated # Dairies	30	23	3	3	1	3	63

Opportunities for Growth

Three specific opportunities areas for enhancing agricultural viability in Tompkins County have been identified during this planning process: organic farming, renewable energy, and value-added product diversification.

- ***Organic farming*** is thriving in Tompkins County. Six local dairies have converted to organic practices; all of these dairies are located in the North Lansing-West Groton and Northeast ARFAs. Additionally, organic fruits, vegetables, and grain operations have started or converted from conventional farming methods in response to strong local and regional demand for organic products and farmers' interest in higher prices yielded by organically-certified products. These products are reaching County residents via Community Supported Agriculture (CSAs), U-Pick enterprises, local farmers markets and grocers. They are also finding markets as far away as New York City. Lands that have been fallow are being pulled back into organic production, as they can be more quickly certified organic than active, chemically-fertilized farmlands.

- ***Renewable energy*** crops and facilities may also provide local farming with opportunities for income enhancement. As an example, biomass, including hay, grass crops, or woody plant material produced on farmland can provide a new cash crop for farmers, particularly on lands that are less than suitable for edible crops or feed stock. Biomass could supply a potentially significant local demand for home heating. Farmers may also host facilities for community power generation, particularly wind and solar development, and methane digesters. Farm sites may be the most appropriate locations for commercial wind, as there is a sufficient amount of land on many farms to accommodate structures alongside active farming operations while still providing ample buffer to mitigate impact on neighboring land uses.

- ***Value-added products*** are a means to increase farm profits and diversify outputs, which may help to retain farmers in farming and keep land in agriculture. Farmers in the ARFAs expressed interest in pursuing value-added dairy, fruit, and grain products; however, there is need for assistance in navigating the regulatory framework so that farmers can understand and implement state agency requirements as well as apply for funding that for value added product development.

EMERGING ISSUES

Three emerging issues that could impact this strategy's proposed implementation approach and its success that should be considered when establishing local protection goals and measures are climate change adaptation, future local energy supply, and recent New York State regional initiatives.

1. Climate change adaptation

When planning for conservation, it is necessary to consider conservation needs and strategies in light of the impacts our community may face in the future from an altered, warmer climate. The NYSERDA–funded ClimAID Report projects that "climate change is extremely likely to bring higher temperatures to New York State, heat waves are very likely to become more frequent, more intense, and longer in duration. Total annual precipitation will more likely than not increase, likely occurring as more frequent intense rainstorms. Summer droughts could increase in frequency, intensity, and duration, especially as the century progresses. Meanwhile, there will likely be a reduction in snowpack and an increase in the length of the growing season."

In Tompkins County, agriculture is likely to be impacted. Agricultural communities in stream valleys, such as those in Tompkins County, "may face increased risk of flooding from extreme rainfall events. Updated flood zones and flood plain mapping for purposes of future development is necessary for climate change adaptation." Communities in flood zones in the City of Ithaca and adjacent to major creeks and tributaries may be less able to cope with extreme rainfall events. Also, many of the rural areas of Tompkins County that utilize well water may struggle with water supply issues during future droughts.

Aquatic health, habitat, and ecosystems and their host natural areas are sure to be disrupted as a result of even slight temperature increases. Heat stress on dairy cows and other farm animals is likely, impacting local agriculture. At the same time, the rural economy will be adversely impacted by reduction in maple syrup production and reduced winter recreation opportunities.

Local deer populations have also exploded, in part due to warmer winters, and created a serious pest problem, particularly in the northern portion of the County Also, an increased rate of invasive species, including pests and insects that spread disease, such as ticks and mosquitoes, is anticipated. The impact of invasives is likely to be significant. Current work to eradicate Hydrilla in Cayuga Lake and reduce anticipated impact of Emerald Ash Borer suggests that invasives may create a need for emergency funding to protect threatened ecosystems and natural resources.

2. Energy supply issues

Two local and regional energy issues that currently dominate the energy supply discussion in Tompkins County include, 1) whether and when high-volume hydrofracture drilling for natural gas will come into NYS and the County, and 2) how to develop local, renewable energy sources.

Natural gas drilling

Many significant environmental impacts are anticipated that would affect this strategy, should natural gas drilling be fully implemented in Tompkins County. These include degraded agricultural soils and resources from the industrialization of agricultural land; deleterious impacts on many scenic views; fragmentation of our forested landscape that would adversely impact wildlife; degradation of watersheds and water quality; decline in the quality of outdoor recreation opportunities due to drill pad and pipeline development; loss of open space and vulnerable natural areas; and the potential for irreversible groundwater contamination. In the face of this industry's potential entry into the County, conservation goals become all the more important.

If the Marcellus Shale gas resource is as great as is estimated, then broad-reaching cumulative impacts to Tompkins County are likely. The NYS DEC dSGEIS indicates that "though the potential for severe negative impacts from any one site is low, when all activities in the State are considered together, the potential for negative impacts on water quality, land use, endangered species and sensitive habitats increases significantly."

Renewable energy sources
Renewable energy crops and facilities may provide local farmers with opportunities for income enhancement, as well as provide energy for rural residents. As an example, biomass, including wood, hay, grass crops, or woody plant material produced on farmland can provide a new cash crop for farmers, particularly on lands that are less than suitable for edible crops or feed stock. Biomass could supply a potentially significant local demand for alternative home heating fuels.

Farmers may also host facilities for community power generation, particularly wind and solar development. Farm sites may be the most appropriate locations for commercial wind, as there is sufficient land area on many farms to accommodate structures alongside active farming operations while still providing ample buffer to mitigate impact on neighboring land uses.

3. New York State regional initiatives

New York State is organizing much of its planning, implementation, and funding on a regional basis. According to this new structure, Tompkins County is situated within the Southern Tier region.

Southern Tier Regional Economic Development Council (REDC)
Ten Regional Economic Development Councils were created in 2011 to develop long-term strategic plans for economic growth for their regions. These councils are public-private partnerships made up of local experts and stakeholders from business, academia, local government, and non-governmental organizations. The Southern Tier Region consists of the eight counties of Broome, Chemung, Chenango, Delaware, Schuyler, Steuben, Tioga, and Tompkins.

The Regional Economic Development Councils are tasked with investing in jobs and economic growth by putting in place a community-based, bottom up approach. These councils review and rate funding applications for a multitude of state programs, including parks funds and agricultural funding, that could impact how and which conservation strategies will be able to go forward with state funding. Statewide distribution of funds to regions, based on documented regional priorities, will be important considerations for local conservation planning.

Cleaner Greener Southern Tier Plan
The Cleaner Greener Southern Tier Plan, funded by NYSERDA, will develop a comprehensive sustainability plan for the Southern Tier REDC region. The plan will identify regional implementation projects that offer significant opportunities for reducing greenhouse gas emissions, increasing energy efficiency, promoting the deployment of renewable energy projects and furthering each region's progress toward the goals established by both the sustainability plans developed through this program and the strategic plans developed by their Regional Economic Development Councils. These projects will be eligible to compete for state funding beginning in 2013.

The Plan will be comprehensive in nature, addressing the following topics at the regional level: energy and greenhouse gas emissions, transportation, land use and liveable communities, waste, water, economic development, working lands and open space, climate change adaptation, and governance. This plan is intended to inform municipal sustainability and land use policies, serve as a basis for local government infrastructure decision making, guide infrastructure investment of both public and private resources, and outline specific and tangible actions to reduce greenhouse gas emissions consistent with New York State's goal of 80% carbon reduction below 1990 levels by the year 2050.

A few key areas of the Cleaner Greener Southern Tier Plan will be focused on conservation issues that will have implications for Tompkins County's conservation efforts. The water, waste, working lands/open space and climate change adaptation sections of the plan will include conservation elements, and particular projects coming out of the plan will likely consider regional agriculture, flood mitigation, and water conservation.