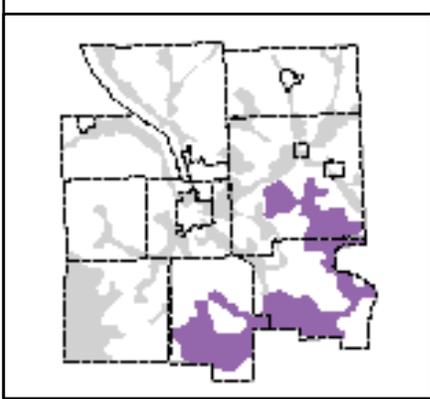
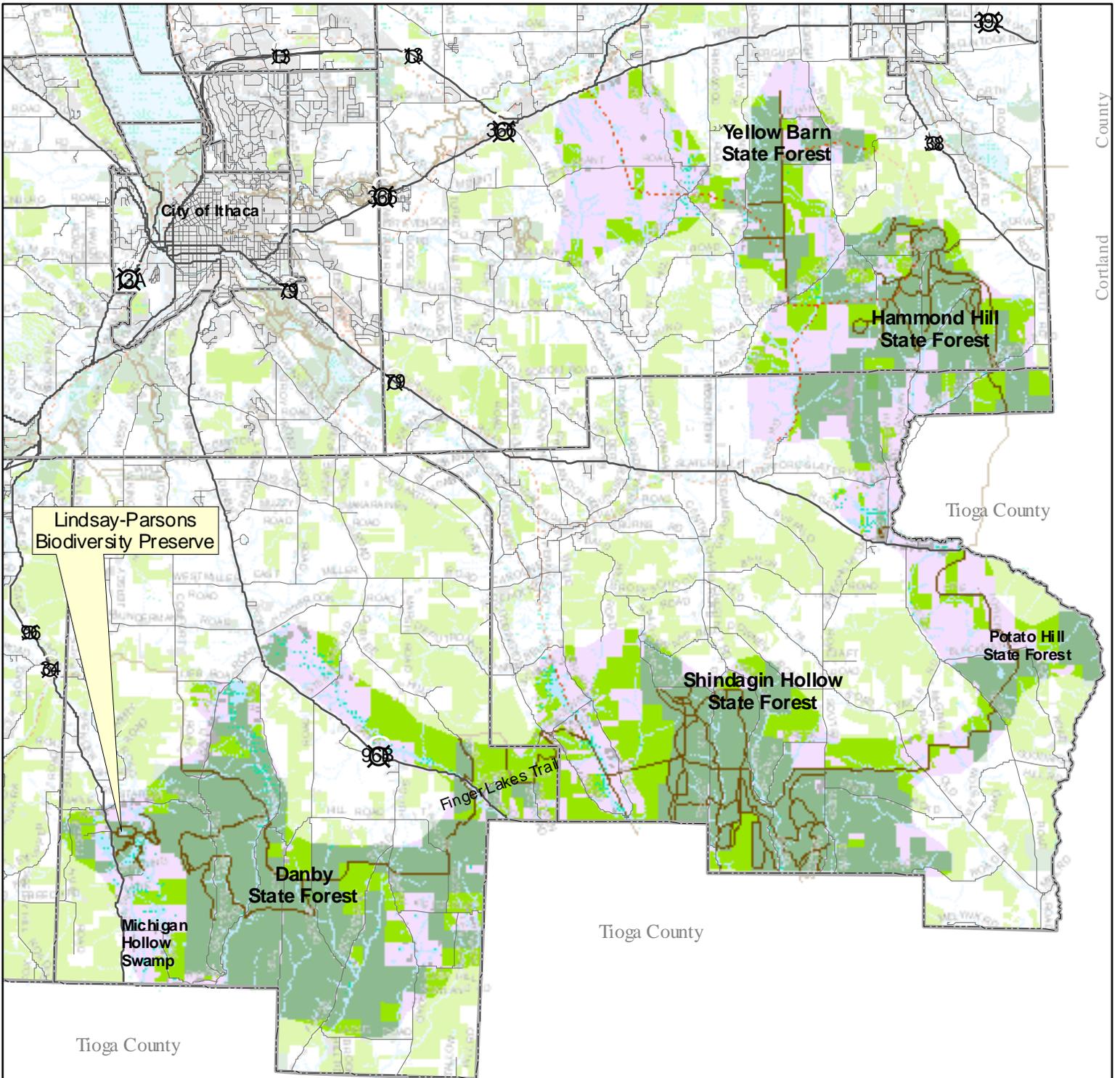


The Forest Lands





-  Intermittent Streams
-  Perennial Streams
-  Open Water
-  Wetlands
-  Existing Trails
-  Potential Trails
-  Developed Land
-  Protected Open Land
-  Private Forests greater than 20 acres
-  The Forest Lands Focus Area

Note: Features outside of the Focus Area are faded.

0 0.5 1 2 3 Miles



Description of Focus Area

This expansive, bow-shaped Focus Area is located in the southeastern portion of the County and includes five State Forests, stretching from the Danby State Forest in the Town of Danby east to Shindagin Hollow and Potato Hill State Forests in the Town of Caroline and north to Hammond Hill and Yellow Barn State Forests in the Town of Dryden.

The characteristics of the landscape and patterns of development within this Focus Area contribute to a feeling of remoteness that is highly valued by residents and visitors. Forty thousand acres of land are included within this Area, of which half are already protected by the State of New York primarily as forestland. As part of a nationwide effort to reduce soil erosion, enhance forest production, and provide recreational opportunities, the State and Federal governments acquired many of the lands in this Area in the 1930s, 1940s, and 1950s. To those visiting this area, deteriorating stone foundations and abandoned fruit orchards and flower gardens add an air of mystery to this Area and are evidence of the old homesteads and farms that once occupied these lands. The hillcrest and valley topography that characterize this Area provide a dramatic and picturesque landscape that shapes and defines this Focus Area and provides a sense of the rural character for which Tompkins County is known.



Evidence of old homesteads, such as this row of trees and stonework in the Danby State forest, are found throughout the Focus Area.

These lands are also part of the area identified as a priority project in the 2006 New York State (NYS) Open Space Plan as the “Emerald Necklace”, an arc of

forested hills and valleys that extends across three counties and includes nine State Forests, the Finger Lakes National Forest, Cornell University’s Arnot Forest, and Connecticut Hill Wildlife Management Area. This Focus Area, complemented by the other protected lands in the region, combine to form an unusually large and particularly rich landscape, which is capable of providing long-term economic benefits to the region and supporting the habitat needs of a multitude of animal and plant species.

Major Benefits

Unique in Tompkins County, these interconnecting swaths of forests offer a wide variety of benefits to landowners and the community at large. Timber harvesting and maple syrup production are examples of sustainable forest products that can provide a long-term stream of income for property owners. Managed sustainably, these forests can also sustain the myriad of species that currently utilize this area, including salamanders that migrate subterraneously, an array of nesting neotropical songbirds, and an increasing number of black bears.

Public lands within this Area have a long history of recreational hunting, and are one of the few remaining large contiguous areas in Tompkins County that are publicly-accessible for hunting game and waterfowl species. The Area provides a large number of high-quality recreational opportunities, including fishing, snowshoeing, cross country skiing, snowmobiling, hiking, and, in recent years, recreational use of the Area has expanded dramatically to include birding, mountain biking, and horseback riding. Most notable is the increasing popularity of mountain biking at Shindagin Hollow State Forest and cross-country skiing at Hammond Hill State Forest. The recreational use of the Area is enhanced by the spectacular scenic appeal of this Area, which offers dramatic vistas of the hillsides and valleys, picturesque views of forested corridors, and frequent glimpses of remote and undisturbed landscape.

The forested lands of this Focus Area serve as the headwaters for two major watersheds: one with streams draining north into Cayuga Lake and eventually into Lake Ontario and one with streams draining south into the Susquehanna River and eventually the Chesapeake Bay. Large complexes of wetlands in the western-most portion of this Area (in the Town of

Danby), and particularly those in the Catatonk Creek watershed, play a key role in mitigating the frequency and severity of flooding in these watersheds. Two discrete preserves within this Area are used for education and research.

The Finger Lakes Land Trust's Linsday-Parsons Biodiversity Preserve, located in the Town of Danby near the western edge of this Focus Area, is known as the world's first temperate zone area for "bioprospecting" for potential medicines from fungi. The former Cornell University Astronomy Lab, located in Danby State Forest and now owned by the NYS Department of Environmental Conservation, is used by Cornell for research and education purposes.

Sustainable Timber Harvesting and Agro-Forestry

Five state forests and numerous privately owned forests combine to make this Focus Area one of the most exceptional forest resources in Tompkins County and the region. The New York State Department of Environmental Conservation (DEC) actively manages these forests for biodiversity, sustainable harvesting of forest products, and compatible public uses. DEC is in the process of developing long-term management plans for the Potato Hill State Forest as part of the Tri-County Unit Management Plan (UMP) and will soon be initiating the UMP process for Danby and Shindagin State Forests, followed by a UMP for Hammond Hill and Yellow Barn State Forests.

All of the State-owned forests in the Focus Area are managed by DEC to comply with the stringent standards necessary to receive certification from the Forest Stewardship Council, a non-profit organization that promotes sustainable and responsible management of forests. DEC and Cornell Cooperative Extension also offer to private landowners technical assistance with developing sustainable forest management plans, creating opportunities for large forest owners and small forest owners to cooperatively implement sustainable timber management and harvesting practices.

This Area is highly suitable for agro-forestry as well. Sugar maple occupies the most productive soils in the area, offering good opportunities for the production of maple syrup. Several locations within this Area are also suitable for the production of ginseng and goldenseal, including concentrated areas found in the southern portion of the Focus Area along the slopes of Cayuga Inlet, Michigan Creek, and Willseyville Creek.

Outdoor Recreation

Recreational use of lands within this Focus Area occurs year-round and is prized by residents and tourists alike. This Focus Area offers a multitude of recreational experiences ranging from hiking, camping, birding, and fishing in the summer to cross country skiing, snowmobiling and trapping in the winter. Shindagin Hollow State Forest is touted as an exceptional mountain biking destination, and was ranked by *Bike Magazine* in 2002 as one of the top five places in the United States for mountain biking. Hammond Hill State Forest is a popular local and regional cross-country skiing destination due to its colder climate and longer snow cover. The Finger Lakes Trail, a 562-mile hiking only trail, passes through this Area connecting the Catskill Mountains with the Allegheny Mountains. Though ATV use is not permitted in State Forests, snowmobile trails are common, and actively used, throughout this Area.



Cross-country skiing in Hammond Hill is one of the many popular recreational activities in this Focus

Hunting

Though hunting opportunities are generally decreasing throughout the County, the 17,000 acres of State Forest and State Park land and abundant ponds and wetlands in this Focus Area combine to create plentiful opportunities for hunting and trapping. The amount of contiguous undeveloped land in this Area, and the amount of publicly-accessible and relatively remote forest lands, enhances the habitat of species suitable for hunting, as well as the overall hunting experience for the numerous hunters who use this Area. Private lands

immediately adjacent to these publicly-owned lands further enhance these opportunities. Hunting of deer on these lands not only provides recreational benefits, but also provides economic and environmental value by controlling deer populations that can negatively impact forestlands.

Critical Habitat and Biodiversity

The forested hillsides and deeply cut valleys with ponds and wetlands create a rich mosaic of habitat in this Focus Area. Forestlands dominate the landscape, of which nearly 20,000 acres are protected as part of the extensive network of State Forests. Small-pockets of old growth forests are scattered throughout the Area, notably in and around Hammond Hill, Yellow Barn, and Shindagin Hollow State Forests. A rich diversity of amphibians and reptiles, such as vernal pool salamanders, and forest birds, such as the Canada Warbler and Wood Thrush, thrive in these forests. Indeed, Hammond Hill State Forest is cited as having the best diversity of upland forest nesting birds in the County. Black bears make their home here as well, with the Focus Area being part of a larger contiguous block of bear habitat that extends into Pennsylvania.

The unfragmented forest landscape also helps to support riparian forest birds. Danby State Forest, in particular, provides extensive habitat for key riparian bird species, such as the Louisiana Waterthrush and the Worm-eating Warbler. Protecting properties that are adjacent to the State Forests would help to maintain the



A rich diversity of species thrive in the unfragmented forests of this Focus Area.

existing connectivity of the forest across the landscape. In the low-lying valleys, the landscape is dominated by wetland, ponds, and early successional habitat. These habitat areas are particularly rich in species diversity.

The Lindsay-Parsons Biodiversity Preserve, consisting of about 450 acres of lakes, forests, meadows, brushland, gorges, streams and wetlands, is located in the far western valley in the southern portion of the Focus Area. This diverse habitat supports an equally diverse variety of plants and animals, including some rare species. This portion of the Area is the only known location of mountain laurel in the Cayuga Lake watershed. The Biodiversity Preserve and the Danby State Forest along adjacent Bald Hill to the east provide a solid foundation for future preservation efforts in this valley.



Diverse habitat in the Lindsay-Parsons Biodiversity Preserve supports an equally diverse variety of plants and animals.

Just over Bald Hill, Michigan Hollow Swamp provides excellent forested wetland habitat and is identified as potentially being the most species-rich forested wetlands in the State. This swamp and associated Jennings Pond are part of Buttermilk Falls State Park and Danby State Forest. Further to the east, the valleys along 96B and White Church Road provide similar wetland habitat, although there is limited existing protected open space to expand on for future preservation. The White Church Road valley, which extends up into the Six Mile Creek Focus Area, is noted as being an important site for nesting wetland birds.

Protection and Management Issues

Sustainable Timber Harvesting and Agro-Forestry

- n Forests can become fragmented when large parcels are subdivided into smaller parcels, due to the increased potential for development among multiple owners. This can impact the commercial viability of the forests. Smaller forest parcels (e.g., <20 acres) may have more limited commercial timber harvesting opportunities than larger forest parcels due to limited access or economies of scale for use of machinery and labor. The quality of trees found in a forest, as well as its proximity to other working forests, also influence the commercial viability of forests. This Focus Area has numerous large and small properties that are actively used for timber harvesting. Coordination of these efforts can enhance the long-term economic and environmental productivity of these lands.
- n Forest management practices affect the forest health of a given property as well as the adjacent properties. Sustainable forest management is most successful when implemented over large areas that may include multiple properties. Owners of small forests in this Area can leverage benefits associated with forest management practices developed for large forested areas.
- n Sustainable forest management practices are critical for controlling invasive species, limiting diseases and insect problems, protecting water quality, and providing for the long-term ability to harvest high-quality timber. Development of sustainable timber management and agro-forestry plans should include large landowners as well as smaller interested landowners, particularly those with properties adjacent to existing forested lands.
- n Some landowners are unaware of the income opportunities available to them from their forestlands. Landowners that earn some income from their forestlands are more likely to retain that land (especially as larger parcels) than landowners that earn little or no income from forestlands.
- n White-tailed deer can overgraze forested areas, and limit forest regeneration. Deer particularly like eating saplings of higher-value species (e.g. maple and oak). Their preference for these species changes the makeup and character of the forest

ecosystem over time, and undermines the value of future timber harvests. Deer management is essential for long-term sustainable timber harvesting. Alternate silviculture practices may help to mitigate deer damage.

- n Demand for local products, tax incentives, and a comprehensive strategy for resource land protection have been successfully used to support agriculture in Tompkins County; however, working forests lack a comparable support structure.

Outdoor Recreation

- n The Finger Lakes Trail route is vulnerable to disruption because access is mostly provided through handshake agreements with property owners, rather than by formal trail easements. Vulnerable sections of the Finger Lakes Trails in this Area generally include those portions between the already protected State lands. Particular areas of concern are the portions of trail that lie to the north and south of Hammond Hill State Forest, east and west of Shindagin Hollow State Forest, and north-east of Danby State Forest.
- n Scenic views and tranquility are important components of the outdoor experience, and are threatened in some areas by human development and incompatible land uses.
- n The presence of pollutants such as sediment, herbicides, pesticides, fertilizers, pathogens, and litter can negatively impact human health and recreational opportunities. Monitoring pathogen levels and water quality in Jennings Pond is important for sustaining public swimming at these locations.
- n When trails are not properly maintained, they are less inviting for people to use. Well-maintained trails that are clearly marked not only provide for a better recreational experience, but also encourage people to stay on the trail, thereby limiting the impact of recreational use on sensitive areas and adjacent private property. When designing new trail routes consideration should be given to potential impacts on fragile plants and animals in the area.

- Generating awareness of available recreational opportunities can facilitate greater public enjoyment and appreciation of public resources and natural amenities. Education of the public about the nature and purpose of particular trails is also necessary to protect the amenities and designated use of the trail (be it a footpath, horse trail, or mechanized use trail) and to ensure that trail users have the experience they anticipate.
- In some areas, use of all-terrain vehicles (ATVs) interferes with the enjoyment of other recreationalists. Enhancing opportunities and dedicated facilities for recreational ATV use may help minimize future conflicts.

Hunting

- Generally, parcels less than 20 acres offer limited hunting opportunities and do not provide a high quality hunting experience, unless they are adjacent to publicly accessible hunting land (e.g., state forests).
- Throughout the County, opportunities for hunting are decreasing as the amount of developed lands is increasing. Lands within this Focus Area offer one of the most exceptional hunting opportunities in the County and should be managed to sustain this benefit.
- Wetlands and riparian areas are sometimes filled or degraded, which negatively impacts important habitat for waterfowl and decreases the amount and quality of waterfowl hunting.
- Fragmentation of game species habitat can inhibit species propagation and movement between adjacent habitats, which negatively impacts hunting opportunities for those species.

Critical Habitat and Biodiversity

- Although specific habitat size requirements vary by habitat type and from species to species, contiguous open space of at least 135 acres is generally needed to support diversity and abundance in plant and animal communities, and to enhance species survival by providing habitat for larger populations of animals and allowing for species movement and migration. Many species however, are more sensitive to habitat size and generally require a
- much larger contiguous area of at least 6,000 acres for suitable habitat. There are more than 20,000 acres of protected land in this Focus Area, which provide the foundation for a large contiguous habitat block. Maintaining the connectivity of this protected land to surrounding habitats, however, is key to sustaining the habitat benefits provided by this unfragmented landscape. Key bird habitat identified in the New York State Natural Heritage Database could also provide a connecting link to the nearby Van Buskirk Gulf Focus Area.
- The introduction of non-native species, pesticides, herbicides, and fertilizer can inhibit growth of native plants critical to biodiversity. Fens are particularly vulnerable to the impacts from invasive species and use of herbicides, pesticides, and fertilizers within the fens and on adjacent lands. Several Unique Natural Areas in this Focus Area have fens, including Headwaters Swamp in the Town of Danby, Michigan Hollow Swamp Ponds, and Danby Fir Tree Swamp.
- There is not enough protected or actively managed early successional habitat in the County. Most early successional habitat species are not sensitive to the size of the habitat patch, so even small habitat conservation efforts can be beneficial. Early successional habitat is found throughout the Focus Area, with the largest concentrations of suitable habitat found in and around the Lindsay Parson's Biodiversity Preserve, Dandy State Forest, and Hammond Hill State Forest.
- Vernal pools, found in forests and other landscapes, provide critical habitat for species of greatest conservation need, such as the Jefferson Salamander. A vernal pool is a depression in the ground that periodically fills with rainwater, snowmelt or a rising water table. This unique habitat is particularly sensitive to alterations or destruction resulting from development. Conditions in the western portion of the Focus Area are particularly well suited for vernal pool habitat.
- Some timber harvesting practices can adversely impact forest and riparian habitat for particular species (for example, by reducing canopy coverage and forest litter, damaging understory vegetation, and increasing erosion on steep hillsides and along creeks). Vernal pools in forests are particularly sensitive to intensive timber harvesting, while some forest species, such as the Canada Warbler, benefit from modest timber harvesting. While most

riparian birds tolerate timber harvesting, it is important to encourage harvesting practices that are compatible with habitat requirements of species of greatest conservation need in the area. Timber harvesting practices should include considerations for plant and animal species and water quality.

- ▭ Illegal collection of seeds, plants, and animals can have a negative impact on plant and animal populations that are critical to biodiversity in this region.
- ▭ Some species are sensitive to disturbance by humans straying off trails. Off road vehicles and bicycles can also be particularly detrimental in sensitive areas. When designing new trail routes consideration should be given to potential impacts on fragile plants and animals in the area. Belle School Road Fen Unique Natural Area in the Town of Caroline and Caroline Pinnacles Unique Natural Area are both noted as being particularly sensitive, and there is some evidence of timber cutting in the Thatcher's Pinnacles Unique Natural Area in the Town of Danby.



Forested stream buffers, such as this one along Michigan Creek, provides important habitat for riparian forest birds.

- ▭ Many riparian forest birds are particularly sensitive to habitat fragmentation. Fragmentation of riparian forest habitat decreases the ability of certain species to utilize migration corridors and increases competition from species that dominate edge habitats. In addition, fragmentation increases light penetration into riparian forests, which can alter understory composition and forest microclimates. There are two critical components of functioning and unfragmented riparian habitat: 1) forested buffers along creeks of at least 330 feet; and 2) large contiguous tracts of adjacent forestlands. Danby

State Forest provides excellent contiguous riparian habitat, with more scattered habitat areas found in Shindagin Hollow and Hammond Hill.

- ▭ Overgrazing of forested areas by whitetail deer can inhibit native plant growth, forest diversity, and forest regeneration. Deer particularly like eating saplings, which can interfere with the viability of understory habitat that is particularly critical for many riparian birds.
- ▭ Species that live in and around stream corridors, floodplains, wetlands, and ponds require clean water to thrive. Poorly managed riparian areas, and riparian areas that are cleared for development, negatively impact water quality and reduce the viability of these habitat areas.
- ▭ Wetlands and ponds are sometimes filled or degraded, which has a negative impact on the ability of those systems to support wetland and pond species. Large wetlands (>5 acres) provide critical habitat, and smaller wetlands serve as “stepping stones” to provide habitat connections. Wetlands and pond areas that are isolated and small in size cannot support certain wetland and pond species of greatest conservation need. Many wetland bird communities depend on their local habitat, as well as the wetlands within a two-mile radius. Key wetland and pond habitat is located in the low-lying valleys of this Focus Area.
- ▭ When people try to control the location of streams and limit the natural flooding and channel meandering characteristics of streams, the streams are less adept at promoting the growth of native stream and wetland vegetation, which wetland and pond species need to thrive.
- ▭ Beavers physically alter habitats by cutting down trees, building dams, digging canals and building lodges. This activity affects the distribution of many other plant and animal species. In some situations beavers are desirable, whereas in other circumstances their presence may be detrimental to habitat management goals. As a result, areas inhabited by beaver may require active beaver management. The nature of the management depends on the particular conditions and resource priorities of the site. Although no longer present, beaver activity in Michigan Hollow Swamp once enhanced the biodiversity of the area, while the presence of beavers in the Danby Fir Tree Swamp, and resultant changes in hydrology, is considered to be a threat to the area.

A number of Unique Natural Areas in this Focus Area are notable for the presence and/or abundance of species. Thatcher's Pinnacles in the Town of Dandy is particularly noted for its exceptional flora. The Dryden Slaterville Fir Tree Swamp Unique Natural Area in the Town of Dryden is identified as an important botanical site that is in excellent and pristine condition but that is fragile and very vulnerable to development pressure and the proximity to Midline Road. The design of future road improvements to Midline Road should take sensitive species into account. The Michigan Hollow Swamp Unique Natural Area in the Town of Danby is a large forest wetlands swamp that is identified as potentially being the most species-rich forested wetlands in the State. This site is noted as especially significant for a high diversity and abundance of insects, reptiles, and avifauna. This site should be resurveyed, as there is some concern that the site is degraded with unknown recovery potential. The Headwaters Swamp Unique Natural Area in the Town of Dryden is identified as once being a very species-rich fen. Logging, gravel extraction, and road construction have occurred on site and this area needs to be resurveyed.



Michigan Hollow Swamp Unique Natural Area in the Town of Danby is identified as potentially being the most species-rich forested wetlands in the State.

Priority Actions for Forest Lands

The Natural Features Focus Area Project has identified 35 priority action items to be initiated over the next five years. The action items have been established to bolster and coordinate the region's many existing conservation efforts. They are not intended to replace or replicate those efforts. The action items reflect the broad range of unique uses in the identified Focus Areas. Below is a list of actions that are particularly relevant to the Forest Lands Focus Area. For a complete list of actions and designation of principal agencies that will lead implementation efforts please see the *Implementation of Priority Actions* section of the complete county-wide plan.

Forestry

- è Determine feasibility of a local forestry cooperative.
- è Assess the feasibility of establishing a Forestry District to provide tax relief for landowners that are actively managing their forests and are willing to commit to keeping their land forested.

Hunting and Deer Management

- è Maintain a list of certified hunters interested in hunting on private land.

Water Quality

- è Encourage semi-pervious paving, bioretention, and infiltration practices.
- è Provide education about and access to hydrologically sensitive area data through the Natural Resources Inventory (NRI) on-line interactive mapping tool.
- è Educate highway departments about the impacts of roadside ditching on water quality and water quantity as well as on the spread of invasive species, and provide highway departments with information about appropriate best management practices to address this issue.
- è Investigate and distribute information about techniques for controlling excessive water-borne bacteria originating from geese and other wildlife.

Outdoor Recreation

- è Provide maps and educational signage perhaps in the form of an information kiosk, at State Forests to improve access to recreational resources and encourage appropriate uses. Provide emergency responders with better trail maps to improve incident response time. Create and distribute a guidebook for the county's recreational amenities that highlights trails, swimming areas, and bird watching opportunities.

Critical Habitat and Biodiversity

- è Work with municipalities to protect wetlands and vernal pools smaller than 12.4 acres in size and not regulated by the NYS Department of Environmental Conservation.
- è Map small wetlands and vernal pools using data on hydrologically sensitive areas and provide information to landowners and municipalities about these locations.

Invasive Species and Native Plants

- è Inventory and identify high priority areas for the control of invasive species.
- è Establish a coordinated approach for distributing invasive species information to landowners throughout identified high priority areas.
- è Develop and distribute a list of popular landscaping plants and appropriate native species substitutions.
- è Conduct a comprehensive "natural lawns and gardens" campaign to limit the use of pesticides, herbicides, and fertilizer, and increase the use of native plants in landscaping.
- è Develop a policy for using native plants for all county maintenance activities and on all county properties, and work with local municipalities to institute a similar policy.

Rural Landowner Outreach and Education

- è Enhance existing rural landowner education efforts with an emphasis on sustainable forestry practices, impacts of ATV use, invasive species, wetlands management, grassland habitat, and targeted outreach to new rural landowners.
- è Identify and coordinate the dissemination of information about grants available to private landowners for habitat management and enhancement.

Technical Assistance for Municipalities

- è Provide technical assistance to municipalities working on projects that implement the recommendations of the plan.
- è Provide training and information to municipalities on the full-range of conservation tools available, how to use information from the plan and the Natural Resources Inventory, and flood plain management strategies.

Coordination

- è Convene a group of partners (Tompkins County Conservation Partners) involved in local conservation efforts twice a year. Meetings will facilitate regular information sharing as well as coordinated educational efforts such as periodic field trips for municipal officials to key sites in the Focus Areas.

Land Protection in Priority Areas

- è Protect priority protection areas through partnerships with area agencies and municipalities by purchasing land and acquiring conservation easements.
- è Educate landowners about tax incentives available for conservation efforts through various formats including town/village newsletters with special emphasis on landowners within the open space system.
- è Develop or identify a model conservation zoning ordinance for use in key portions of the focus areas.