

TOWN OF CORTLANDT MASTER PLAN

CHAPTER 10: ADDENDUMS

BIODIVERSITY IN CORTLANDT

The majority of the following information is taken from a report entitled “Planning for Biodiversity in the Town of Cortlandt” written by Michael W. Klemens and Nicholas A. Miller of the Metropolitan Conservation Alliance, Wildlife Conservation Society.

Biodiversity in Cortlandt

The rich tapestry of species, genes, ecosystems, and their interactions are collectively referred to as biological diversity, often shortened to “biodiversity”. Cortlandt and neighboring communities are home to significant habitats and rich assemblages of wildlife, due to a unique convergence of factors:

1. The diverse geological variation within Cortlandt serves as a foundation for a wide variety of habitat. Wetlands, streams and elevation gradients combine to create many distinctive habitat types, which in turn support unique and rare species. Cortlandt’s biodiversity is influenced by both the Hudson Highlands and the more low-lying river valleys.
2. The geographic position of Cortlandt and neighboring communities is at an ecological crossroads, which contributes to the diversity of plants and animals found with the town. At the close of the Wisconsin glaciations (ca.15,000 years ago) plants and animals moved into and repopulated southern New York from a variety of routes, including the Wallkill valley, the Atlantic Coastal Plain, and from the Midwest via the Mohawk Valley. These routes converged in southeastern New York’s lower Hudson Valley.
3. Northern Westchester County has experienced lower density development than communities in the southern half of the County. Because of this many of the ecological treasures of northern Westchester County are still intact. The pattern of small hamlets with intervening open space composed of wetlands and second growth forest has fostered both scenic and biodiversity values. Although we recognize that the *status quo* is changing rapidly in some areas, large tracts of relatively pristine habitat remain in portions of Cortlandt.

4. Cortlandt's biodiversity is represented by both widespread species and species that are declining in Westchester County and throughout the region, including many that are on New York State's list of endangered, threatened and special concern wildlife. Species such as the marbled salamander and box turtle which are at the northern limit of their natural range in the lower Hudson Valley. Stewardship of these and other species within Cortlandt has conservation values that extend far beyond the town, adding value to both regional and State-wide conservation efforts.

Importance of Biodiversity

It is often argued that biological diversity has its own inherent value, that it is our obligation to preserve biodiversity for its own sake. However, it is important to note that communities directly benefit in many ways from their biological resources, and that these services can often be measured in economic terms. For example, wetlands are often extremely biologically diverse. But wetlands protected for their biodiversity also provide a variety of other functions, including flood abatement, water quality improvement, aquifer recharge, stream base flow maintenance, recreational opportunities, and more. Other vital ecological services provided by wildlife (bees, butterflies and others) include pollination of a wide variety of plants, including food crops and many garden flowers.

Biodiversity provides important recreational opportunities, including hunting, fishing, hiking bird watching and photography; it also provides a scenic backdrop to the daily activities of Cortlandt's populace. The forests, wetlands, fields and associated wildlife and plant communities serve as an important outdoor laboratory used by schools and nature centers.

The diversity of wildlife populations within a town or region is a direct measure of ecosystem health and consequently, the ability of these ecosystems to provide important services to our communities. The benefits to maintaining Cortlandt's biodiversity are far reaching. Issues of water quality, rural aesthetics and human health are all closely tied to biodiversity. A biologically diverse landscape is resilient to change and provides ecological services to our communities, now and into the future.

Importance of Including Biodiversity in the Local Land Use Planning Process

Biodiversity receives some protection through State and Federal regulations. These laws, however, are not designed to protect the ecological function of Cortlandt's landscape. Federal and State species protection encompasses a small subset of biodiversity – those species that are at great risk of disappearing. These threatened and endangered species are akin to critically ill patients. It will take an extraordinary allocation of resources to recover these species.

Work by the Wildlife Conservation Society has demonstrated that as much as 75% of Cortlandt's wildlife species are in a long-term non-cyclical decline. To protect Cortlandt's biodiversity will require proactive action at the local decision making level.

Apart from sustaining biodiversity at the local level, a scientifically informed approach to biodiversity management will prevent site-by-site conflicts over the ecological value of lands. This approach will help focus development into areas where it will have a lesser impact upon the ecological fabric and function of Cortlandt. By planning with nature, Cortlandt can create a quality community for future generations where human progress is more in harmony with the natural world.

To achieve these goals, the towns of Cortlandt, Yorktown, New Castle and Putnam Valley have entered into a partnership with the Wildlife Conservation Society's Metropolitan Conservation Alliance to address biodiversity and land use planning issues at a locally-based, inter-municipal scale.

This project, known as the Croton-to-Highlands Corridor project (CHC) is based on several years of *de novo* field surveys and integrates the topics detailed within this section. The final project report will be delivered to the four towns on April 22, 2004 and will constitute an addendum to this section on biodiversity in the Town of Cortlandt Master Plan. This report will include specific recommendations and options for maintaining biodiversity, ecological function and landscape connectivity within each of the four towns, as well as strategies to manage biodiversity on an inter-municipal basis.

Preliminary Strategies to Plan for Biodiversity

There are a variety of measures that towns can take to ensure that biological resources are considered as their communities continue to develop and grow. The following briefly describes some of these measures. By undertaking these measures, towns can maintain biodiversity while attaining tangible benefits for present and future generations

1. *Master Plans*: Ideally, a community's desire to protect its biodiversity should be incorporated into its Master Plan as a planning goal. The protection of biodiversity then becomes a baseline planning layer – a layer that builds upon a regulatory foundation, but goes beyond regulation in its geographical reach.
2. *Innovative Regulations*: Regulations such as those that protect wetlands, limit development on steep slopes, or promote clustering help control environmental deterioration. However, regulations alone are insufficient to protect biodiversity; they must be supplemented with proactive planning efforts. Despite this, the development of innovative regulations that build upon a town's home rule authority can maintain biodiversity while respecting a community's right to grow and prosper. For example a "conservation area overlay zone" could be adopted by Cortlandt in order to redirect development away from ecologically sensitive areas and toward areas that can sustain such development.

3. *Baseline Inventories:* Communities can simultaneously protect their existing biodiversity and plan for economic growth. However, this can only be accomplished by gaining an understanding of where a town's biodiversity exists. With this information, it is then possible for towns to plan around their natural resources keeping them relatively intact instead of pitting environmental concerns against development concerns on a site by site basis. Through baseline field inventories, it is possible to distinguish areas within a town that require more sensitive ecological management from those areas better suited for development. Such information is rarely available at site specific or town specific scales. Data obtained from local baseline inventories can be combined with data from broader, regional sources, such as the New York Natural Heritage Inventory, to make biological sound decisions during the planning process.
4. *Incorporating Biodiversity into Open Space Planning Efforts:* Parcels are often prioritized as part of open space planning efforts. This prioritization is traditionally based on factors such as accessibility, economic feasibility and potential for recreation activities. Biodiversity concerns should be woven into this prioritization process. By considering factors such as habitat quality, habitat diversity, habitat connectivity and known locations of wildlife populations, the preservation of open space can help to maintain biodiversity in Cortlandt.
5. *Working at an Inter-Municipal Scale:* Ecosystems exist at the scale of thousands of acres and some at tens of thousands of acres. And yet, most of our decisions are made at a scale of a hundred acres or less, which is a small fraction of any given ecosystem. Despite extensive environmental review through the SEQRA and local decision making authorities, most of these decisions contribute to biodiversity loss by fragmenting large ecosystems into smaller, less functional units. Cumulatively, these site by site reviews have a major impact on biological resources within Cortlandt and surrounding communities. Ecosystems that have been fragmented by decisions made at scales of hundreds of acres or less cannot be re-assembled back into ecosystems totaling thousands of acres. To adequately protect biodiversity requires that communities plan at a scale which will protect these resources. This requires cooperation among neighboring municipalities, since most ecosystems span multiple political jurisdictions. Organizing around watersheds and other resources that are shared in common is a valuable way to approach ecosystem planning. Cortlandt should consider forming an inter-municipal council with neighboring communities based upon an inter-municipal agreement to address planning issues at broader scales.
6. *Generic Environmental Impact statements:* A GEIS enables towns to plan for development at a broader scale than is possible with traditional site by site environmental impact statements. In the GEIS process, Cortlandt can address the shortcomings of reviews done at too small of a scale (see previous paragraph). This is accomplished by conducting an overarching impact assessment on a large area, ideally an entire natural system or large tract of undeveloped land. As individual development projects are proposed within this area, they are evaluated against the findings of the GEIS.

If biodiversity concerns are adequately assessed during preparation of the GEIS, it is possible to avoid wildlife declines and habitat fragmentation, which are often the cumulative result of individual, site by site reviews. The Town can recover the costs of the GEIS through pro-rated fee assigned to each proposed development project.

7. *Biodiversity Assessment Guidelines:* The SEQR process requires that towns consider the impacts of proposed development on natural resources, including wildlife populations. Many towns have adopted standards for certain aspects of the SEQRA process (e.g., wetland assessments and delineations), but have no such standards for wildlife or biodiversity assessments. Assessments are usually conducted by biologists working for the developer. Because there are no standards or guidelines, these assessments often fail to supply the level of detail that is required to make informed decisions. Information based decisions are necessary to ensure the continued integrity of Cortlandt's natural resources.

In this regard, the Town of Cortlandt Planning Board recently adopted guidelines requiring wildlife and plant biodiversity assessments included with applications for proposed development that enhance the town's ability to make better planning decisions and maintain biodiversity as growth proceeds. Such assessments are prepared by a Town Biodiversity Consultant and paid for by the applicant.

8. *Training Opportunities for Land Use Decision Makers:* Land use decision makers (e.g., town planners, elected and appointed municipal officials, land trust personnel, and concerned citizens can make use of a number of training opportunities. For example, the Glynwood Center and Pace University's Land Use Law Center conduct the Community Leadership Alliance Program, which focuses on innovative land use planning and policy at town and inter-municipal scales. NYS DEC's Hudson River Estuary Program conducts biodiversity assessment workshops within counties and towns near the Hudson River estuary in partnership with various organizations. The Wildlife Conservation Society conducts workshops that address biodiversity as it relates to land use planning within target communities; one on one technical support is also provided to town planning staff on a limited basis.
9. *Specific Tools for Integrating Biodiversity into Planning Process:* The Wildlife Conservation Society has developed a series of publications with the explicit goal of bringing conservation science and innovative land use policy directly to those that shape our landscapes: municipal planners, elected and appointed officials and other land use decision makers. Based on the recommendations in the Croton to Highlands Biotic Project, the Town may want to adopt a local Wildlife and Vegetation Preservation Ordinance to provide for the evaluation and protection of wildlife and vegetation habitats and corridors in new development.

The Town should also participate in the Westchester County Endangered Species Program which will include among other things, an inventory of wildlife and plant species on Town and County property/parkland and a wildlife and plant preservation plan. A local Wildlife and Vegetation Preservation Ordinance can establish guidelines for new development that reduce and mitigate the potential impacts and risks on the town's biodiversity resources.

Such guidelines should include: ecological standards for proposed mitigation of impacts on native plant species, soil types, slopes, drainage, water resources and wildlife habitats. Depending on the nature of each individual site as determined by a biodiversity assessment, certain biodiversity features deemed to be important can be preserved as a result of the application process for new development.

