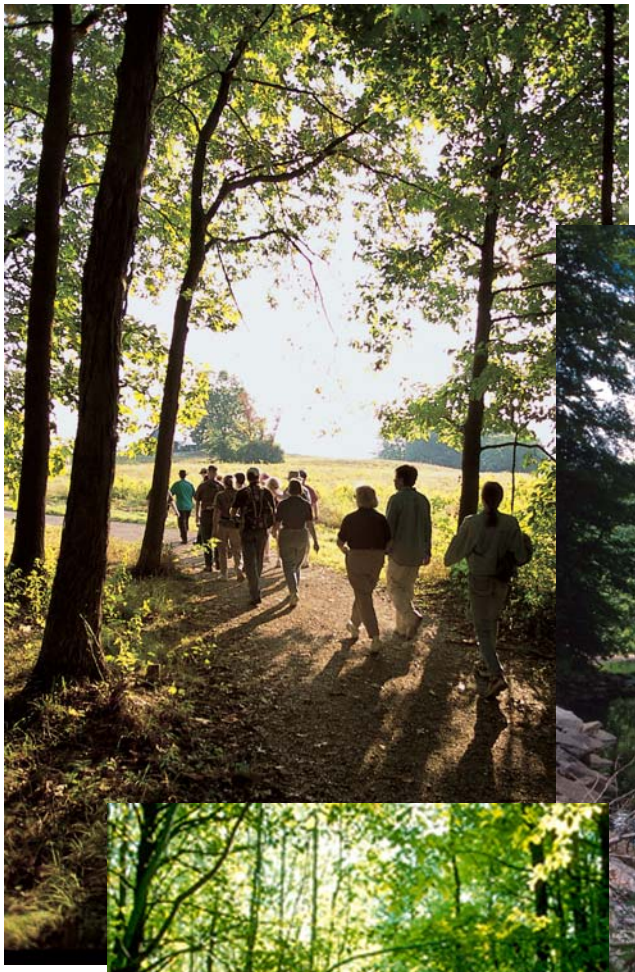
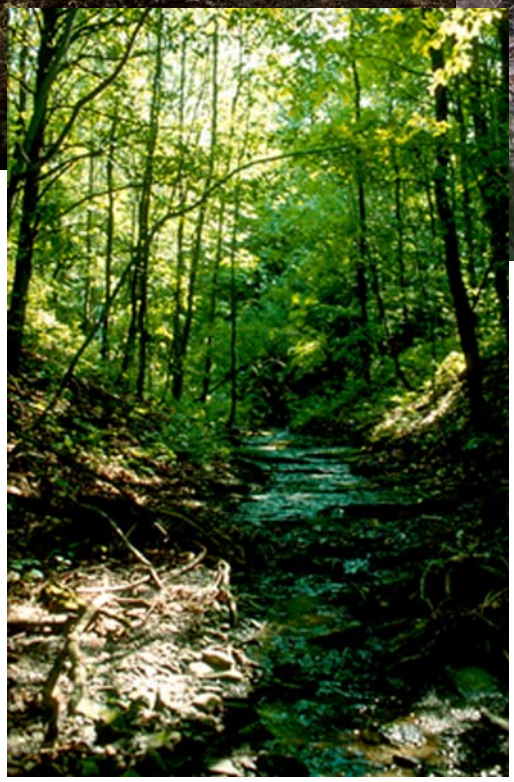
Local Open Space Planning Guide





Local Open Space Planning Guide

2004

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Andrew M. Cuomo
Governor

NYS Department of Environmental Conservation

NYS Department of State Division of Local Government

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INTRODUCTION

For more than 100 years, New Yorkers have worked together to create parks and to protect open space resources. In 1885, New York made Niagara Falls the first state park in the nation. The Adirondack and Catskill Forest Preserve, also created in 1885, was the country's first designated wilderness. Central Park is a priceless asset to New York City and a model for other urban parks.

But these and other well-known accomplishments are only a part of the story. Each community, each town, each county has unique places, special recreational resources, treasured historic sites and important natural areas. New York State also has many economically vital farms and forests, and thousands of miles of waterfront.

Our ancestors recognized that these open spaces may not survive without care and attention. Community planning is needed to create and maintain parks and preserves. Local land use regulations can guide the patterns of development on the land to avoid loss or damage to important natural and cultural resources.

In response to an act of the State Legislature, New York adopted its first statewide Open Space Conservation Plan in 1992. The plan was developed through a grassroots process involving citizens in all parts of the State. One recommendation of the plan was that State government should encourage the development of local open space plans. Such plans could be consulted to ensure that future revisions of the statewide plan really reflect the views and ideas of all New Yorkers. Local open space plans can help shape a better future for individual communities across the State.

OPEN SPACE CONSERVATION - A CORNERSTONE OF QUALITY COMMUNITIES

In January 2000, Governor Pataki issued an Executive Order establishing the *Quality Communities Task Force* to explore ways that the State could enhance its ability to work with local governments, private landowners, conservation organizations and other interested parties to preserve the quality of life in communities throughout New York. The Task Force was chaired by Lieutenant Governor Mary O. Donohue and vice chaired by Alexander Treadwell, New York State's former Secretary of State. Eighteen State agencies participated in the Task Force, as did representatives of a broad range of conservation, business, local government and civic organizations. The Task Force studied community growth in New York State and made recommendations to assist communities in implementing effective land development, preservation and rehabilitation strategies that promote both economic development and environmental protection.

The recommendations of the Quality Communities Task Force represent the first comprehensive attempt by State government to deal with the negative environmental and economic consequences of unplanned land use and growth. A central finding of the Task Force's report, *State and Local Governments, Partnering for a Better New York*, is the need for the State to conserve open space resources, including forest land, farmland and critical environmental areas as part of an overall Quality Community effort.

In his January 2002 State of the State address, Governor Pataki outlined a goal to preserve a million acres of land across New York State during the next decade. Governor Pataki said,

> *"We must do more. And so today I am setting a goal of preserving over 1 million acres of open space over the next decade– that's in addition to the more than 300,000 acres we have already preserved since 1995.*

Lieutenant Governor Donohue's Quality Communities Task Force and newly released Open Space Plan provide the perfect framework for achieving that goal in cooperation with local governments across the State."

Local governments play an important role in open space conservation through the ownership of local open space resources, through local planning, and through land use controls. County and regional planning boards also have a vital role in this activity.

Local governments can conserve significant amounts of open space by using their authority to control growth and development and to direct development to those locations which already have sewer, water, roads and other public infrastructure. The Quality Communities effort encourages development where these conditions exist, because it will avoid costly and inefficient sprawl while achieving savings in energy and infrastructure costs and preventing unnecessary loss of farmland, forests and other valuable open space resources.

Increasingly, many local governments, including several of the "East End" towns on Long Island and municipalities in Westchester and Dutchess Counties, have developed local sources of dedicated funds for local open space conservation activities. Many other communities are considering various proposals to develop local dedicated revenue streams for such activities.

Land Trusts and other private, not-for-profit conservation, recreation and preservation organizations have played an increasingly important statewide and local role in open space conservation. This role includes: raising private funds for acquisition of lands containing natural or cultural resources to be held by not-for-profit organizations or conveyed to government; obtaining donations of lands containing natural or cultural resources or easements over such lands from private owners; when public funds are available, acting as an intermediary for the acquisition of land by State or local governments, in part to speed up the acquisition process; managing open space areas, historic sites and cultural resources; providing volunteers to assist in the management and maintenance of public lands and cultural resources; and providing technical assistance to governments and others involved in land conservation.

This local open space planning guide is intended to help interested local governments develop and implement local open space conservation programs. It will assist local officials, private organizations and individual citizens in preparing and implementing their own open space plans or open space components of their local comprehensive plans. The methods and suggestions in the handbook can be applied in rural communities, suburban towns or densely developed cities.

The suggestions in this handbook are strictly voluntary. State government is not imposing new planning requirements on municipalities, but rather it is assisting those citizens and local officials who want help and advice for local open space planning. This handbook:

- Explains how the public will benefit economically, socially and environmentally from having a viable community open space system.
- Sets forth a simple, step-by-step process for preparing a local open space conservation plan.
- Describes how to take advantage of the many laws, programs, technical assistance and funding resources that are available to pursue open space conservation.
- Recommends specific strategies, methods and techniques for conserving open space.
- Includes useful sources of information, including web addresses, to follow up on specific issue areas relating to open space conservation.

We look forward to having your response to the handbook and to working with you to create partnerships between private landowners and public agencies, nonprofit organizations and interested citizens, to conserve the best of New York State's remarkable landscape and valuable open spaces.

CHAPTER 1:

THE NEED TO CONSERVE OPEN SPACE

WHAT EXACTLY IS OPEN SPACE?

Open Space is land that is not intensively developed for residential, commercial, industrial or institutional use. It serves many purposes, whether it is publicly or privately owned. It includes agricultural and forest land, undeveloped shorelines, undeveloped scenic lands, public parks and preserves. It also includes water bodies such as lakes and bays. What is defined as open space depends in part on its surroundings. A vacant lot, community garden or small marsh can be open space in a big city. A narrow corridor or pathway for walking or bicycling is open space even though it is surrounded by developed areas. Historic and archeological sites are often associated with significant open spaces and are a part of our common heritage.

The quality of the lives of the people in each community in New York State depends upon the quality and character of their environment. Mountains, lakes, rivers, wetlands, forests, coastal plains and seashores all provide habitat for a diversity of plant and animal species and they serve a variety of human needs. The distribution and character of natural and cultural resources affects transportation and employment patterns, influences where people live, affects how people perceive themselves and how they relate to other New Yorkers and the rest of the nation.

The open spaces in our communities are all part of the heritage of the Empire State. Increasingly, businesses make decisions about where to develop or expand facilities based on the quality of life available to prospective employees. Communities that plan carefully for their future and conserve their important open spaces are better able to attract the businesses and jobs that improve the local economy and that create quality communities.

Significant as they are, open space resources are also fragile. Poorly designed and unplanned development can permanently mar or destroy them. However, if people decide which areas should be retained as open space and which areas should be developed for more intensive use, then they can save what they love best about their communities while still accommodating desirable growth.

WHY PLAN FOR OPEN SPACE CONSERVATION?

The process of getting everyone together to think about community needs is a worthwhile endeavor in itself. An open space plan is much more than a land acquisition plan. It can make a wide variety of recommendations about the future of a community.

- An open space conservation plan can recommend new recreational facilities to enhance the economic as well as the social life of the community.
- It can recommend that a community enhance its downtown by planting shade trees and creating small sitting parks. It can protect wetlands, stream corridors and other ecologically important features.
- It can lead to the establishment of linkages between these areas and sites through greenways and bicycle trails.

An open space plan is the flip side of a development plan. After identifying important open spaces, it will be much more apparent where development should occur. It can also recommend land use regulations that will help protect the community from uneconomic and inefficient sprawl.

Some people may feel that there is no threat to the natural and cultural resources in their community. Others may feel that their community already has an abundance of open space. However, because open space planning can improve a community's recreational opportunities, aesthetic appeal and economic growth, communities that are fully developed, communities on the urban/rural fringe and communities in the most thinly populated regions of the state can all benefit from open space planning.

New York's natural and cultural resources are finite; they are exhaustible and vulnerable. People have the power to conserve these resources or to

Local Open Space Priority Project Identification

The Town of Lewisboro completed an Open Space Inventory in the fall of 2000. A key component of the inventory is the Lewisboro Trail. Stretching from the hamlet of South Salem to Golden's Bridge, the Lewisboro Trail will be a ten-mile long hiking and horseback-riding trail. The trail will run through a 1,000 acre greenway that connects seven nature preserves, the Town park and the County's Ward Pound Ridge Reservation, three schools, and three nature museums – the Westchester County Trailside Museum, the Wolf Conservation Center, and the Bedford Audubon headquarters. The Open Space Inventory has identified the Houlihan parcel as key to completion of the trail and the #1 priority for preservation.

The Houlihan property is located in the geographic center of the Town and consists of 110 acres, including four separate high meadow fields, several forested areas, two stream corridors and extensive wetlands. The streams drain into the Cross River Reservoir, which is part of the New York City Watershed. The property is home to many species protected by New York State, as well as species that are rare in Westchester County. The property has been appraised at about 4 million dollars. In October 2002, Governor Pataki announced that the State would contribute $1,000,000 towards the purchase of the property to match contributions of $1,000,000 by Westchester County, $500,000 by the Town of Lewisboro and $1.5 million in private donations. This project is an excellent example of a public-private partnership for open space preservation.

destroy them. How well the residents of New York plan for and conserve open land while providing space for homes, commercial and industrial places and community and transportation facilities, will have a profound impact on future generations. The community level is the most important place for open space planning to happen. If it isn't done there, it may not be done at all.

THE BENEFITS OF OPEN SPACE

Open Space provides numerous benefits to society, direct and indirect, short-term and long-term. The earth doesn't provide goods and services. People benefit socially, environmentally and economically from the conservation of open space in their communities.

Social Benefits

Open spaces and historic and cultural sites in our communities make up the heritage of the people of New York State. These places have substantial social benefits to all New Yorkers. In a world in which everyday life is often filled with tension and uncertainty, parks and preserves can provide the opportunity for escape and relaxation for every New Yorker.

The September 11th tragedy focused attention on the core values of our society, including the importance of family and community. Community identification can lead to more social interaction through community and family activities which promote a sense of a common heritage.

Interesting and diverse recreation areas and scenic open spaces have a special ambiance and attractive qualities. These attributes help to define these communities and they lead residents to a strong identification with their neighborhoods. By becoming partners, or "stakeholders," in making their community attractive, people develop a strong sense of community. They will take great pride in a beautiful park or waterfront that they have helped to preserve for their own enjoyment. In turn, this builds quality communities.

Any society needs food, shelter and a host of manufactured products in order to survive. New York's productive open spaces - farmlands and forests - can sustainably provide food and wood products to meet the needs of present and future generations.

New York State's natural and historic landmarks are our common heritage; they provide common ground, bind us together, give us a sense of belonging, teach us about the past, and are the foundation for the future. If we can succeed in making parks and other public lands accessible to all New Yorkers, we can provide meeting places which bridge differences among the segments of our society.

As many have written, wild land has spiritual value. Many New Yorkers may never visit the

Adirondack Forest Preserve, a state park or historic site, but are glad to know they are there. In this State of 18 million people, the awareness that special places are set aside from development is a value that is difficult to measure in dollars.

Forests and fields, beaches and marshes, historic sites and heritage areas, all offer unique opportunities to educate people of all ages about our environment and our history.

Parks are sites for athletic recreation which is so important to young people. In New York's communities, court and field sport opportunities offer an important outlet for constructive outdoor activity and enrichment.

An attractive park in an economically depressed and physically rundown area makes children feel better about their neighborhood and themselves. A community sports program provides an alternative for at-risk youths by providing places for children to play and for young people to participate in athletics. Community conservation programs can also provide young people with an opportunity to focus their energy in a positive way and build self-esteem. In order to have successful programs for children, communities must plan for well-maintained parks and open spaces for them to use. Along with other community and educational improvements, carefully planned open spaces can be helpful in guiding children toward a successful future.

Open spaces provide a place for recreation and maintenance of physical health as well as a place for spiritual revitalization. Physical health often reduces stress, which in turn, can help to ward off many illnesses. Contemplating an aesthetically appealing landscape or a beautiful stream can provide inspiration. When people are healthy, they are motivated and more productive.

Environmental Benefits

We have come to learn that healthy natural systems play an important role in environmental and ecological protection:

- Freshwater and tidal wetlands filter and process polluted water, and buffer developed areas from flooding.
- Forested areas remove carbon dioxide from the atmosphere, thereby mitigating the threat of global warming. Trees and parks in urban settings reduce noise, lower temperatures in the summer, reduce the consumption of non-renewable fossil fuels for residential and commercial cooling and heating, and trap pollutants in the atmosphere.
- Forests are a primary source of clean water; the Adirondacks and Catskills are the sources of several of the State's major river systems. Similarly, undeveloped land protects the quality of underground water supplies. For example, Long Island's sole source aquifer is being protected through an aggressive land acquisition program undertaken by a partnership among the State, county and local government and conservation organizations.
- Conserving open spaces and related natural resources allows important biological resources and natural habitats to remain intact and ecologically healthy. These habitats sustain the many species that exist in New York State and help to achieve biological diversity which is important to the survival of humankind.
- Finally, open spaces provide areas for environmental education. Natural areas are living museums of natural history. Interpretive walks and classes conducted in preserved natural areas can increase one's appreciation for the environment.

Economic Benefits

Open space has significant economic benefits

Parks, beaches, scenic landscapes, historic sites, lakes, streams and coastal areas are central to New York State's tourism and travel industry. State Parks and Historic Sites alone generate almost $500 million in sales to local area businesses from out-of-state visitors. Another $20 million is generated through tax revenues. Additional local and regional economic benefits are derived from New York residents using these resources.

New York State is the 4th largest agricultural state in the country. Our agriculture contributes $15.5 billion a year to the State's economy.

Timber harvesting on forested lands generates an estimated $230 million dollars per year in revenue to landowners, public and private. The wood-using industry employs at least 42,000 people in New York State and generates annual payrolls in excess of $1 billion. The industry produced $3.2 billion of value-added to the Gross State Product and employment accounts for 5 percent of all manufacturing employment.

Open land, scenic and historic sites and the availability of recreation are important to the State's quality of life and thus are a primary factor in attracting and retaining economic investment. The most rapidly growing states in the country use quality of life to attract growth. New York State can compete in the global economic marketplace by retaining its natural and cultural assets.

Retaining open land can be the least costly approach to environmental protection. For example, New York City can buffer its watershed from intensive development through the historic watershed agreement, avoiding much of the estimated $5 billion cost of constructing treatment facilities for the Delaware and Catskill sources of its drinking water.

Protection of open space can help shape growth in a way which saves money on public services. Clustered development can reduce the costs of utilities, transportation and public works construction and maintenance. For example, protected open space requires fewer community-supplied services while providing recreational benefits to the community.

A number of recent "cost of services" studies conducted in New York State and elsewhere have demonstrated that undeveloped open space, including forest and agricultural land, generates more in real property tax revenue than it requires in municipal services – representing a net economic benefit to local governments. New residential development in previously undeveloped areas, on the other hand, usually results in a net loss to municipal finances. In other words, the costs for local services (schools, police and fire, roads, solid waste, sewage treatment and other public infrastructure) outweigh the increased tax revenue produced by new residential development. Targeting development through careful land use planning and redevelopment of areas already served by existing infrastructure, thereby protecting open space areas, makes economic sense for local governments and helps revitalize urban areas. Parks and open space can also enhance the property values of nearby residences.

Many critical economic goods and services are provided by the preservation of open space and the species and habitats contained within serve as an important source of food, fuel, fiber and medicine. Other critical economic services or benefits associated with the conservation and preservation of these species through open space protection include pollination, recycling, nitrogen fixation and homoeostatic regulation. For example, most commercially exploited fish and shellfish species depend on tidal marshes and other coastal environments for spawning and development. Furthermore, many wild plant species have important commercial value for medicinal, food and energy sources.

THE ROLE OF LOCAL AND COUNTY GOVERNMENTS IN PROTECTING OPEN SPACE

Local government is the level of government that is closest to the people. It is also the level of government that is closest to the open space resources that people need and use. Local governments can and do play a vital role in open space conservation. They do this by planning for the protection and enhancement of important open spaces, by managing growth and development in a way that will accomplish this, acquiring open space, and by practicing good stewardship of municipally-owned open spaces.

Among the many powers that local governments have for conserving open space is a provision in the Municipal Home Rule Law that authorizes them to adopt local laws for the protection and enhancement of the physical and visual environment. Section 247 of the General Municipal Law authorizes acquisition of open land in fee or by easement for public purposes. In 1989, State legislation was enacted to authorize cities, towns and villages to establish transfer-of-development rights programs, which are a specialized form of zoning that can help to conserve open space. Cluster development and planned unit development are other techniques that are available to local governments, in conjunction with subdivision approvals, which will help to conserve open space. Local planning and land use controls are important tools for conserving open space resources. These techniques are discussed in detail in Chapter 4.

Planning boards and zoning boards of appeal are local agencies, voluntarily established by local governing bodies, which have planning and regulatory control over land development and land use activity. They administer subdivision regulations, engage in site plan review, prepare the official map and use other basic community planning tools.

County and regional planning boards also have an important role in land use decisions and open

space planning and conservation. As is true for local planning boards, they may prepare a comprehensive land use plan or a single functional element of a comprehensive plan, such as one for transportation or open space conservation. They also may prepare separate open space plan components such as a plan or report on natural areas preservation or historic preservation. Further, they can provide a multi-community perspective on open space needs.

Many types of natural resources extend beyond the boundaries of a single municipality. For example, a wetland may be shared by several adjacent towns within the same county or by more than one county. A county or regional planning board is in a good position to conduct a review or make a decision about a project that might affect a natural resource system of intermunicipal scope. The General Municipal Law authorizes county planning boards to review certain developmental projects that are of an intermunicipal nature. These agencies can also play a key role in planning for a regional open space system.

Local Comprehensive Planning

Under State law, cities, towns and villages are authorized to prepare comprehensive plans. The laws provide directions to local governments about the elements to include in local comprehensive plans, several of which relate specifically to local open space planning. Planning boards prepare or oversee the preparation of local comprehensive plans, which should include an open space element.

The primary purpose of a local open space plan is to cause the important open lands in the community to be conserved for open space uses. The open space plan can play an important role in overall community development. Not only will its implementation ensure that the community will have dedicated important open lands to specific open space uses, but also that the open space system will provide a framework for more intensive use of other parcels of land for residential, commercial, industrial, transportation and community facility purposes. It is essential, therefore, that open space planning be fully coordinated and integrated with physical, social and economic planning for the community.

This handbook strongly recommends that communities interested in local open space planning and conservation work to ensure the full integration of those activities with the completion and adoption of local comprehensive plans. Local governments, usually through the planning board, can prepare and adopt more detailed elements of the comprehensive plan. Thus, a local open space plan should be structured in a way that meets the needs of the local comprehensive plan. Ultimately, the open space plan should be adopted by the local governing body as an integral part of the comprehensive plan.

Master Plan Development & Coordination

The 1987 City of Saratoga Springs Master Plan recommended that a committee be formed to advocate open space conservation and to prepare and help implement an open space plan for the city. As a result, the Saratoga Springs Open Space Project was formed by a group of citizens and is still active today. An open space plan was prepared by the committee and adopted by the City Council with extensive public review and discussion. First published in 1994, the open space plan is presently undergoing an inventory review with another set of public meetings. The inventory review is recommended in a new master plan adopted in 2001, along with a proposed "Conservation Development District" and "Conservation Development Subdivisions." The updated inventory will be used by the Planning Board to review proposed projects. An open space bond act passed on the November 2002 ballot.

CHAPTER 2:

THE LOCAL OPEN SPACE PLANNING PROCESS

INTRODUCTION

This chapter discusses the options for approaching the open space planning process. Should the open space plan be a separate stand-alone document or should it be part of a community's comprehensive plan? Should it encompass the entire territory of a municipality or only a portion of it? Should the open space plan be prepared by the municipal government or by a citizen advocacy group? Should the open space plan be highly detailed or general in nature? Should it emphasize recreational or environmental protection, farmland preservation or scenic views? The answers to these and other questions depend upon the nature of the community, its resources and community planning structure.

Downtown Margaretville, NY

Apart from the direct benefits of conserving resources (see Chapter 3), it is important to integrate open space into the overall growth and development pattern of a community. Thoughtful consideration of how a system of community open space may be used to enhance residential areas, improve traffic circulation, provide recreational amenities for schools and senior housing for example, should result in a plan which wins community support.

There is no single approach to developing an open space plan. Open space plans are as diverse as the communities in New York. Open space in an urban area might consist of a park or bikeway, while in a suburban area, it might mean preserving the last agricultural lands from development. The New York State Open Space Conservation Plan defines open space broadly, and simply, as:

"Land which is not intensively developed for residential, commercial, industrial or institutional use."

Regardless of how open space is defined by the circumstances of a community, the focus of this publication is on open space planning as a component of the overall community planning process. Open space is one aspect of a community. It is an important part of a community's quality of life, but it should be viewed in terms of its connections to the other parts of a community that together make up the place we call home.

Open space may also be thought of as the undeveloped land which results from our efforts to conserve natural resources and scenic areas, to avoid development in hazard areas and to provide recreational opportunities. In this sense, conservation of open space is not an objective in its own right but a result of efforts to protect the natural and scenic environment, prevent development in risky areas and improve the quality of our communities through outdoor recreation.

Another quality of open space conservation is that it often provides multiple benefits. Land conserved because it is important wildlife habitat often contains wetlands which aid in flood control and water filtration. Preservation of farm fields for agricultural activities may simultaneously preserve the scenic qualities of a country road. Prohibition of development on steep slopes may also preserve views of bluffs or ridgelines. Creation of athletic fields results in green space in our communities.

Legal Authority

In addition to the general power of municipalities to engage in matters concerning their property, affairs or government, Article 9 of the NYS Consti-

tution provides that local governments shall have the powers granted to them in the Statute of Local Governments. Section 10 (7) of the Statute of Local Governments provides that each local government has:

"The power to perform comprehensive or other planning work related to its jurisdiction."

Counties, cities, towns and villages also have authority to develop comprehensive plans which may include any elements related to their "orderly growth and development" as well as those concerning natural resources, recreation and sensitive environmental areas (General Municipal Law §239-d, General City Law §28-a, Town Law §272-a, Village Law §7-722). Counties, cities, towns and villages also are authorized to use public funds to acquire open space land in their respective territories, pursuant to General Municipal Law §247, which provides the following useful definition of open space:

Any space or area characterized by (1) natural scenic beauty or, (2) whose existing openness, natural condition, or present state of use, if retained, would enhance the present or potential value of abutting or surrounding urban development, or would maintain or enhance the conservation of natural or scenic resources.

Finally, there also are sources of authority for intermunicipal cooperation in planning activities which grant flexibility for undertaking joint open space planning. General Municipal Law §239-c provides that county planning boards may furnish land use planning assistance to municipalities, and Article 5-G of the General Municipal Law authorizes two or more municipalities to jointly engage in any activity they could separately undertake.

COMPREHENSIVE PLAN OR OPEN SPACE PLAN?

There is legal authority for either a separate open space plan or inclusion of open space elements within a comprehensive plan. Traditionally, comprehensive plans completed by municipalities include an open space element, just as they include elements on transportation, utilities, community facilities, housing and other community needs. Regardless of whether the open space plan is published as a separate document, it is essential to relate the open space plan to the overall development of the area studied. It is becoming increasingly evident that conservation of open space can have a positive impact on the economy of a community by improving its attractiveness and desirability. Communities must be careful to ensure that unintended open space conservation does not cause effects such as increasing housing costs. The best way to address such issues is through integration of open space planning into the overall community planning process. In 2002, The Conservation Fund published *Green Infrastructure: Smart Conservation for the 21st Century*, by Mark A. Benedict and Edward T. McMahon, which puts forth a compelling case for the strategic use of open space, rather than a purely reactive, conservation-based use. In essence, the Green Infrastructure approach is that open space should be proactively used as part of an integrated land use management system to improve the quality of our communities. This is the *strategic* use of open space to accomplish several goals and provide a framework for growth and development within our communities and regions. The rationale underlying this approach argues for open space planning to be conducted as part of a community's overall approach to growth and development, regardless of whether the plan is contained in a separate document.

Intermunicipal Cooperation

In 2000, the Town Board of New Paltz, Ulster County, created the New Paltz Open Space Committee. This was in response to the town's 1995 Comprehensive Plan, which recommended the importance of protecting the community's unique environmental resources. The Village of New Paltz has joined the town in their preservation efforts. The committee hired a consultant to conduct an inventory of their open space resources, including mapping of streams, wetlands, agricultural soils, steep slopes, and scenic views. A final document will be produced in 2003.

It is not just organizations such as The Conservation Fund which recognize that a system of community open space can complement the built environment:

"Building with the environment means seeing planned development and natural systems as

intricately linked and viewing natural resources as an opportunity rather than a constraint."

National Association of Homebuilders
and AMERICAN FORESTS,
Building Greener Neighborhoods, 1995

The integration of open space into the community planning process is what exemplifies the Town of Pittsford's *Greenprint for Pittsford's Future*, which has been hailed as a national model of integrating open space conservation into preservation of community character. Located in a fast-growing suburban area of Monroe County, people in Pittsford were concerned about the loss of open space, particularly farmland. Fiscal analysis showed that the Town's preservation of open space, including the purchase of development rights, would cost taxpayers less than full build-out under the then-current zoning. As a consequence, preservation of prime farmland was the centerpiece of the *Greenprint*, that linked preservation of community character (thus enhancing property values), identification of areas for intensive commercial activity and enhancement of the local agricultural economy. Open space conservation was looked at in a realistic and practical way as a means of leveraging a multitude of other community goals.

The Greenprint Process

The Town of Pittsford, in Monroe County, has received State and federal awards for the development of a "Greenprint for Pittsford's Future." The Greenprint is a guide for development, resource protection and open space preservation and was adopted by the Town Board in 1996. Reflecting extensive community input, the Greenprint is based on recommendations in the Town's Comprehensive Plan Update, adopted in 1995.

The Comprehensive Plan Update reflected concern by the community that agricultural and open space resources were diminishing. The Update recommended that 2000 acres of land in the undeveloped portion of the community be protected. The Greenprint was the methodology developed to evaluate open space vs. development decisions by ranking and rating the open space and cultural resources. The Greenprint process was coupled with a detailed fiscal model predicting future tax rates based on future land use patterns prepared by the Center for Governmental Research in Rochester. As a result of these analyses, the Town of Pittsford has initiated three programs for resource and open space protection: purchase of development rights on 1,200 acres; incentive zoning on about 200 acres, and mandatory clustering on about 600 acres.

It makes eminent sense for communities to analyze their open space needs in conjunction with the range of factors usually reviewed in an open space plan. Occasionally, however, a single function plan, such as a recreational plan or a water quality protection plan may need to be developed. In some cases, a non-governmental organization (NGO) may develop a plan based upon advocacy of its mission, such as farmland preservation or wildlife habitat. In these cases, the valuable information developed can be used by the municipal government in developing an overall community plan.

PURPOSE OF PLAN AND PLANNING AREA

The area to be studied is dependent upon the purpose of the open space planning project. The Village of Margaretville in Delaware County, for example, completed an intensive parcel-by-parcel plan for a half mile stretch of land primarily between the East Branch of the Delaware River and Main Street. This area was chosen for two reasons: (1) to plan for the use of newly acquired parcels which were purchased from private owners as part of a floodplain buyout program, and (2) to use the newly-acquired parcels to leverage the redevelopment of the adjacent Main Street commercial area. The outstanding feature of the Margaretville Revitalization and Recreational Use Plan is its use of open space as a primary element of Main Street revitalization. The plan also serves as an example of the multiple uses of open space through its enhancement of recreational opportunities for youth and the community while putting floodplain properties to appropriate use. Alternative concepts were developed through community planning charettes, and the final plan includes detailed cost estimates for such amenities as park benches and outdoor lighting fixtures.

Many open space plans, of course, cover the entire geographic area of the community. The Town of Pittsford, mentioned earlier, is a leading example of how to incorporate open space into the community's vision as articulated in its comprehensive plan. Another example is the Town of Penfield in Monroe County which completed a town-wide open space plan in 2001. It is available online at *www.penfield.org/government/planning/openspace.php*. The Penfield Town Board established an Open Space Committee consisting of representatives of town government and the public, and proceeded to identify open space parcels important for preservation of Penfield's character. This approach involved the use of computerized geographic information systems (GIS) to plot the location of undeveloped parcels at least 20 acres in size which contained desirable open space features. Potential parcels were checked by the Committee. The next step for Penfield is the development of an action plan for conservation of the identified parcels. See Chapter 4 for information on preservation tools.

Intermunicipal or regional open space plans can accomplish the open space connections between municipalities and define the character of entire regions and counties. Recognizing the importance of the open space and scenic qualities of the Hudson River Valley, the Legislature enacted the Hudson River Valley Greenway Act in 1991, which established the Hudson River Valley Greenway Communities Council and the Greenway Conservancy for the Hudson River Valley to foster municipal and intermunicipal planning and provide technical assistance for Greenway programs to Hudson River Valley municipalities. One method is the development of county-based Greenway Plans or Compacts. Several of the thirteen counties in the legislatively-designated Hudson River Valley are involved in the Greenway Compact process, including Dutchess County, which has developed "Greenway Connections," a version of which is online at *www.dutchessny.gov.*

A distinctive feature of the Greenway Program's regional approach is the emphasis on "an interconnected approach to land preservation and development linked to landscape patterns." This approach looks at natural landscape patterns such as ridges, farmfields, wetlands and mountains and how they relate to the settlement pattern. Landscape features which are important to the quality of the region may then be identified and conserved through a variety of techniques.

STATE PROGRAMS

Currently, State programs are available to foster open space planning which to a certain extent influence the scope of a community's plan if it decides to participate in such programs.

Local Waterfront Revitalization Programs (LWRP)

The Local Waterfront Revitalization Program is administered by the Department of State to encourage planning for waterfront areas of the State's coastal zone and inland waterways. Open space and scenic resources are important components of the

Proposed *Concept Plan* for the Village of Margaretville including recommended uses for several flood buyout properties and a series of interconnected walking trails throughout the Village

LWRP. Technical and financial assistance is available to municipalities both individually and those conducting joint planning. The benefits of an approved LWRP include the requirement that the actions of state and federal agencies must be consistent with the approved program to the maximum extent practicable. Contact the Division of Coastal Resources, Department of State at *www.dos.state.ny.us.*

Hudson River Valley Greenway

This agency administers several grant programs for eligible communities in thirteen counties in the Hudson River Valley to undertake projects related to open space planning, natural resources, scenic resources, comprehensive planning and trail systems. The Greenway Compact is a separate program to foster regional cooperation among the counties and municipalities which can result in preferential treatment for state grant programs which would advance projects identified in the regional compacts. Participating compact communities are also eligible for several other benefits, including the requirement that state agencies coordinate their actions with the plans of compact communities. Contact the Greenway at *www.hudsongreenway.state.ny.us.*

PROCESS

Planning Partners

Successful plans have one thing in common, the early involvement of the range of community interests in the planning process. The question of who is undertaking the lead planning role becomes less important to the success of a plan if representatives of government, business, conservation and recreation are involved. There are a number of entities that could develop an open space plan:

Local Government

Because this publication stresses the fact that open space planning should be integrated into the overall growth and development strategy of a community, it is generally preferable for a municipality, rather than another entity, to undertake open space planning. Utilizing open space planning in a proactive fashion accomplishes a number of objectives. First, a community (or intermunicipal) system of open space can be used to enhance other land uses and achieve overall community objectives. For example, a system of bikeways and pedestrian linkages can reduce vehicle traffic congestion, improve access to downtown businesses and provide recreational opportunities which make the community a desirable place to live. Large swaths of open space adjacent to residential areas improve property values and may maintain wildlife habitat. Moreover, where a municipality has a comprehensive plan for open space, citizens have some expectation of stability for their neighborhoods. Along these lines, as Benedict and McMahon say, “When citizens think all land is up for grabs, they oppose development everywhere.”

The local legislative body may direct its existing planning board to develop an open space plan, or it may appoint a special committee for the task. Where it does appoint a special committee, it is important to appoint a member or members of the planning board to the special committee to maintain communication among the boards. Note that charter counties and cities may have specific processes to appoint members to boards. There are no specific legal requirements for the number of members on an open space planning committee or the qualifications of members.

Breakneck Ridge from Bull Hill in the Hudson Valley

Public/Private Partnerships

The Westchester County Department of Planning prepared "A Plan for Parks and Open Space" in the mid-1990's. Based on the plan, the Department maintains lists of available parcels and a priority listing for various acquisition purposes. Taking the next step, Westchester County has committed $10 million per year over five years towards open space acquisition for both passive and active recreation. The County also recognizes that partnerships with state and local government and non-profit organizations such as the Westchester Land Trust, Open Space Institute, Trust for Public Land, and Scenic Hudson are extremely important for reaching open space goals. This trend at the county level for protecting open space has recently been reflected at the local level. As of March 2002, ten Westchester towns, villages and cities have passed open space referenda to raise moneyfor land preservation.

An example of a successful partnership effort was the acquisition of the Unification Church property on the Hudson River by Westchester County in 2001. This 39-acre property links three National Historic Landmarks: Lyndhurst, Sunnyside and Belvedere, and is part of the Great Estates Corridor along the Hudson River. The National Trust for Historic Preservation and Historic Hudson Valley agreed to mange the property. Scenic Hudson helped to negotiate the deal between the various parties.

One of government's main features is its perspective in trying to benefit the "common good." That perspective should ensure that planning commitees have members who represent a cross-section of community interests and organizations. It should also result in an open space plan that is more than a simple list of places that should be preserved. The plan should relate open space to the achievement of other community goals, and result in a system of open spaces which serve multiple purposes.

It should be clear at the outset whether a municipal open space plan will become part of the municipal comprehensive plan. If so, the procedures set forth in the municipal enabling statutes cited above should be followed, which amount to public hearings and action by the local legislative body. One advantage to incorporating an open space plan into the municipality's comprehensive plan is that the capital projects of all government agencies (excluding the federal government) must take such plans into account. Where the municipality prepares the open space plan it would typically contain a section on plan implementation, so that the plan may become part of the municipality's fiscal planning process, zoning regulations and other regulatory requirements.

Local Open Space Groups

Often, local advocacy groups are the stimulus for the development of governmental open space plans. Such groups may find it necessary to develop an open space plan to raise the issue of open space conservation in the community. Such a plan may have the purpose, for example, of focusing attention on threatened natural or scenic resources in the community, or proposing a bicycle/pedestrian system.

Land Trusts

There are nearly 100 land trusts in New York, most of them with a local focus. They are private nonprofit organizations dedicated to conserving important tracts of land and managing them for conservation purposes. Their local orientation makes them ideal to help develop open space plans and to partner with others in planning. Their traditional role is to accept donations of land in fee and conservation easements from private owners, as a private means of conserving open space. Land trusts are good sources of technical and scientific information on open space resources in the area, and should be consulted in plan preparation. An increasingly important role for land trusts will be to work in partnership with localities to provide stewardship for lands conserved as open space by the municipality.

Conservation Advisory Councils (CACs)

There are over 300 CACs in New York, created by action of the local city, town or village leg-

islative body pursuant to state enabling authority. CACs advise the municipality on natural resource issues and are authorized to prepare an open space inventoy and map for adoption by the local governing body. Following adoption, CACs are authorized to conduct advisory environmental reviews of projects before the municipal planning board which may impact the lands described in the open space plan.

Environmental Management Councils (EMCs)

EMCs may be created by counties under Article 47 of the Environmental Conservation Law. Their membership consists of representatives of CACs and other at-large members. They advise counties on environmental matters and could be of vital assistance in county open space planning.

Involving the Public and Key Community Land Users

It is important that key social, economic and institutional land use components be involved in the planning process in order to obtain information on their goals and understand their needs. The school district, for example must be consulted with respect to recreational open space planning. Often, school athletic fields can be incorporated into an overall system of community recreation in conjunction with municipal and private facilities. It is common for municipalities and school districts to enter into agreements for the reciprocal use of facilities. Similarly, senior citizen housing owners should be consulted to determine how open space might enhance the quality of such housing. The business community should be consulted in order to obtain views on how parks and small green spaces might be developed and used for events and festivals to draw people to commercial areas.

Involving the general public is of course necessary, but is too often done after the fact, when a draft plan has been developed, and the value of public input becomes reduced. When draft plans are presented for review, the process sometimes becomes adversarial rather than productive. The public should be involved in plan development, and the use of the *planning charette*, discussed below, should be considered. At the very least, meetings of the planning group should be well-publicized and held at times and places convenient for public attendance.

Monroe County EMC's Preservation of Environmentally Sensitive Areas

The Monroe County Environmental Management Council (EMC) formed the Preservation of Environmentally Sensitive Areas (PESA) committee in 1991. The committee worked with conservation boards and environmental organizations throughout Monroe County to compile a list of sites they believed to be sensitive. Sites were evaluated by local naturalists and committee members. There is a special emphasis on sites that preserve ecosystems when combined with other sites. The committee recommended that these sites be protected should the opportunity arise. An implementation committee has worked with property owners, residents, County and municipal decisionmakers, New York State and environmental organizations to preserve, protect and raise the awareness of these properties. Through this process, Monroe County EMC has developed a framework for identifying and evaluating sites which can be used by other New York counties looking to protect sensitive areas. Copies of the report may be obtained by contacting Monroe County EMC; 111 Westfall Road, Room 962, Rochester, NY 14620, (585) 274-8063 or PO Box 92832, Rochster, NY 14692.

Planning Charettes

A public planning charette is a way to gain meaningful public involvement. Members of the public as well as key people involved in various aspects of open space and community development meet in small groups with planners for a few hours at a time to create proposals for geographic areas. The process allows for people's ideas to be represented in graphic and practical terms. Planners then take the rough proposals and turn them into more polished representations for later review and refinement.

Charettes are often used to develop design plans for neighborhoods, streets or areas. In this manner, for example, open space plans might be developed for each discrete area of a community in order to assemble an overall community plan. The process may also be productive in developing a single plan for an entire community, and need not be based on dividing the community into areas. A design charette can be used to generate proposals for the use of a specific parcel such as a newly acquired lot for a playground.

Participants meet in planning charettes

Charettes are useful in translating often general public opinion (e.g., "we should have more parks") into specific proposals that are based on the realities and difficulties in implementing generalized goal statements. Attendance at charettes should include people in the community who have hard knowledge of the area (e.g., "there's a conservation easement on that farm" or "the planning board has already approved a subdivision for that area," etc.) In addition to generating a visual expression for an area, charettes give the public a more vested interest in the outcome of the planning process, so they are more likely to remain interested and committed. Members of the public have a means of creating, not just reacting to plans, which is a more meaningful way of participation.

Procedure

While there is no particular procedure for the development of an open space plan, whether by a municipality or another entity, there are guidelines for its approval and implementation. Where an open space plan is being prepared by the municipality as a potential amendment to its comprehensive plan, the applicable enabling statutes require one or more hearings by the board preparing the plan prior to consideration by the local legislative body. Next, this local legislative body must hold at least one public hearing before making a decision on adoption of the plan. Private groups are not subject to State statutes such as the Open Meetings Law or the State Environmental Quality Review Act, but government groups must comply with those statutes.

While groups of volunteers often may be able to develop open space plans, it is very helpful to have professional assistance in many aspects of the plan. Volunteer members of a planning group can be expected to provide direction on community policy issues, and, in many cases, will be able to provide information on open space lands and resources. The planning group will also serve to draw public opinion on open space issues, and facilitate discussion at public forums.

It is a good idea to develop a work program and establish the basic methodology to be used for the development of an open space plan. The methodology will be a function of several factors, mostly concerning the development posture of the community and the funds available for conducting planning work.

Every municipality which has enacted land use regulations should conduct a study of the recreational needs of the community in order to judge whether new residential development will contribute to demand for certain facilities. Under municipal planning and zoning enabling legislation, municipalities may require that developers of residential property provide recreational facilities and parkland, or cash in lieu thereof, where the development would impact the recreational needs of the municipality. *The enabling statutes provide that planning boards may require such facilities or money based upon findings [which] include an evaluation of the present and future needs for park and recreational facilities in the [city, town or village] based upon projected population growth to which the particular [subdivision plat or site plan application] will contribute.*

In order to avail itself of this authority, a municipality should have completed a study of its recreational and park land needs which enables it to conclude that a given residential development will contribute to increased need. Where a park cannot suitably be located within a given development, the developer may be required to contribute funds in lieu of such land. Those funds must be placed in a

separate trust account to be used for park and recreation land purposes. This authority may not be used arbitrarily, but must be based upon an analysis of the municipality's needs. Where a municipality undertakes an open space planning process, it should certainly include a park and recreation needs study as part of such a plan.

Many communities are linking open space analysis to broader questions concerning growth and development. Certainly, for example, water quality can be improved as a result of open space conservation, where aquifers are protected from inappropriate development, steep hillsides are preserved from development and buffers are established along streams. In addition to direct environmental benefits which can be realized from open space conservation (See Chapter 3), various studies in recent years show that low density residential development, which often eats up open space, costs more in services than it earns in tax revenue. Open space, which requires little in services, can have just the opposite result. In this sense, it is especially important for communities to link open space planning to the overall growth and development of the community. For example, areas which are difficult to provide with services, such as steep slopes, are often important open space resources. By correlating areas which present negative development factors and positive open space values, the highest priority areas for conservation may be developed.

Local Open Space Resource Inventory

The Town of Philipstown, Putnam County, is updating its comprehensive plan in 2003, after completing a community visioning process - *Philipstown 2020*. A special board was appointed by the Town Board to prepare the comprehensive plan. As part of this process, a work group of the special board was formed to focus on open space. They identified open space features and categorized them by one of four functions: *community character, public health, habitat and recreation*. An inventory of the Town's open space and natural resources was developed and mapped using GIS. This inventory was used to further refine the community's goals and to come up with implementation measures to integrate these goals. The open space/natural resource portion of the process received funding through a grant from the US Forest Service and Regional Plan Association

The Oak-Tulip tree forest in Philipstown is of exceptional quality

as part of the Highlands Regional Study. The open space work group used data from the New York Natural Heritage Program, The Nature Conservancy, the Hudson River Valley Greenway, Putnam County and Rutgers Remote Sensing Department.

Inventory

Regardless of methodology, almost all community plans begin with an inventory. In the case of an open space plan, the inventory should include the range of items which could satisfy a community's open space needs:

- Scenic roads, views and vistas;
- Rivers, lakes, ponds and streams;
- Wetlands;
- Wildlife habitat;
- Existing public lands, such as parks, trails, and other recreation areas;
- Working landscapes such as farms and forests;
- Unique geologic formations such as cliffs and caves;
- Trails, bikeways, railroad beds and other important rights-of-way;
- Historic landscapes;
- Flood plains, erosion hazard areas and steep slopes.

More information on resources is found in Chapter 3. It is also desirable to map open space resources in relation to other features such as roads, housing and commercial development in order to get a sense

of the impacts of the built environment on open space and to understand how open space land might be used in conjunction with these other features. Undeveloped land adjacent to dense housing clusters for example, might well serve youth recreational needs by development of athletic fields. Existing parklands, as another example, should be protected from commercial development encroachment through appropriate zoning.

Another key element to open space planning is to inventory and map areas which people subjectively feel are important. A community may have an undeveloped entrance or gateway area, for example, which contributes to a positive visual character. While such an area might not show up on a traditional resource inventory, it may be of critical importance to the character of the community and of considerable importance to preserve. Members of the planning group play an important role in developing such information.

The theme of this chapter is that open space resources should be tied to a community's overall growth and development goals. That notion is perhaps best illustrated by inventorying both positive open space elements such as scenic beauty and farm fields and negative development factors such as steep slopes and cost of sewer extensions. These factors, when inventoried and assigned values, should then be spatially analyzed to see where they overlap, through an overlay system.

Overlay System

A common method of identifying lands which might be eligible for conservation is the overlay mapping system. In this system, various resources and values are entered on separate maps, which are then overlaid to reveal clusters of significant resources. These areas are then analyzed for further review to determine if conservation is warranted. In many cases, potential areas for conservation contain conflicting land use objectives, but often, the objectives are complementary.

Traditionally accomplished by entering resource information on transparent sheets of acetate, computerized Geographic Information Systems (GIS) allow for far greater analytic capability. It is important for a municipality to consult with nearby communities and their county and regional planning offices for coordination in using a GIS system. These local agencies will often already have much relevant data such as soils and wetlands entered into a GIS system. Counties are increasingly using GIS systems to enter tax map parcels, which can be useful in identifying specific parcels for further study.

New York State has established the GIS Clearinghouse, which operates the NYS GIS Data Sharing Cooperative. All State agencies are required to be members of the cooperative, and local governments may join the cooperative at no cost. Membership in the cooperative also includes nonprofit organizations and federal agencies. Membership potentially provides access to a great deal of GIS data, and will undoubtedly lead to more data in the future. Local governments should consider joining the cooperative, which has information online at *www.nysgis.state.ny.us.* Membership provides several benefits including notices of training, and links to a wealth of GIS information.

Product

Whether open space planning occurs as part of the community's overall comprehensive plan, or as a separate process, the resulting open space plan should be published as a map. Traditionally, locations of parks, recreational facilities, bikeways and preserves have been mapped by communities as a way of displaying community assets. Inevitably, when communities are promoting the quality of life they provide, maps of their open spaces are prominent among the amenities, along with the quality of their schools. An open space plan map of potential protected open spaces serves much the same purpose by creating a vision of how the community should be. Many communities or groups publish a summary of the open space plan on one side of a folded open space map.

The format of the open space plan depends a great deal on the approach taken in developing the plan. In some cases an open space plan will be a generalized guide for future decision-making. These types of plans are the result of "visioning" planning processes which are concerned with shaping the overall character of the community. In these cases, attention is given to graphic quality, and numerous copies are printed for widespread distribution. This is particularly true of open space plans prepared by private groups, and open space plans which deal with regions. In some cases, an open space plan will be a parcel-by-parcel plan of areas to be conserved, in which case, a widely distributed version may not be necessary.

Implementation is accomplished through regulation, acquisition, taxation policy or a combination of all three. Implementation of the open space plan

may be accomplished in a number of specific ways, as outlined in Chapter 4. It is advisable for any open space plan to contain at least a generalized action plan which lists actions needed to implement the plan, so that decision-makers and the public have a guide to future decisions. If, for example, the open space plan maps out a preferred bike route through the community, the plan should indicate how to bring the bike trail to reality. Of course selection of the route should itself be formed by the realities of implementation so that, wherever possible, the route should be located on public land and on public roads. In those cases, perhaps implementation could be accomplished merely by installing bike trails and creating bicycle lanes on certain roads. Where a trail must cross private lands, the plan should suggest the alternatives for obtaining access, such as purchase in fee or easement.

A map is the key for successful implementation. Planning boards use such maps in determining whether to require that open space land be set aside through the cluster development process. Maps also allow the public to check progress in implementing open space conservation goals. Where open space plans have been prepared by private non-governmental organizations they can be used to convey their vision for the character of the community. Government decision-makers can relate open space lands to plans for new facilities to ensure that open space is not diminished and to use the system of open space to plan for the location of new development.

As mentioned above, where the local legislative body has caused the open space plan to be prepared, it may consider whether to officially adopt it as part of the comprehensive plan. If so, the action is subject to the State Environmental Quality Review Act. Non-governmental organizations are not subject to that statute.

CHAPTER 3:

OPEN SPACE RESOURCES TO BE CONSERVED

Wetlands, scenic views, historic sites, parks, trails, lakes, streams, forests and farms are among the many open space resources that make a community a great place to live. This chapter includes information on these and other resources to be conserved and what a community needs to know about them to create an open space plan.

A successful open space planning process should examine all of the open space resources in a community to determine the importance of each type of open space to the people of the community and to identify those areas that deserve particular attention. This chapter discusses several aspects of this inventory process, including:

- a description of the many types of natural and cultural resources that may be found in a community;
- the specific benefits that conservation of each type of open space can bring to the people of a community; and
- the sources of assistance for preparing an inventory of each type of resource.

Resources likely to be identified in an inventory are places within a county, city, town or village that have meaning and importance to the residents because they:

- are ecologically important as habitat for plants and animals;
- protect the quality, quantity or public use of water resources including watersheds, aquifer recharge zones, lakes and streams;
- have distinctive character, such as sites or areas of historical, cultural or scenic importance. These features contribute to the sense of pride, spirit, and uniqueness of a community;
- have recreational value, such as parklands or potential parklands, playgrounds, waterway access sites, trails and scarce urban open space;
- are important as working landscapes that sustain the industries of farming and forestry while, at the same time, enhance scenic landscapes, wildlife habitat or a rural way of life; and
- have educational or research value.

In designing an open space plan, it is useful to think about each category of open space separately, even though many areas may be important for several reasons. A working farm, for example, may be important for scenic and historical values, as well as a working landscape and habitat for plants and animals. When trying to identify those places within a community that are most important to conserve as open space for the future, these places of multiple value may deserve special attention.

The first step in the process is to take an inventory of the resources in a community. Some resources, such as scenic and recreational, need to be identified by each community itself through community meetings, surveys, or planning charrettes (suggested in the previous chapter). Valuable contacts and sources of assistance are listed at the end of this document.

Mapping is an important part of the open space planning process as well. In addition to the description of the resources and the importance of the resources to the community, knowing where resources are located allows the plan to be implemented in the most effective manner. Mapping techniques are described in Chapter 2, while this chapter includes sources for existing maps.

State and Federal Programs

A number of state and federal programs protect portions of the resources described in this chapter. Most do not comprehensively protect resources. For example, biodiversity laws generally exist only for endangered and threatened species, which is a tiny subset of biodiversity. Most federal and state programs are reactive. Creating a local open space plan is a proactive process and considers a much greater range of factors than do any of the state and federal programs in place. These programs protect some of the resources found within the community, but do not help communities directly with the open space process. It is important to know what these programs protect, so that there is no duplication of effort and that they can be factored in as part of the

overall local plan. These programs may also be good sources of information about the resources they were designed to safeguard. Certain key programs are described in the text of this chapter. Other funding programs are described in Chapter 4.

BIODIVERSITY:

Species and Habitats

Biodiversity, or biological diversity, is the variety of life from genes to species and ecosystems. It encompasses several of the other resources described in this chapter; forests, water resources, and even farms contribute to diversity. To protect biodiversity, the land that is needed for species and ecological communities to thrive must be protected. This entails knowing where the key habitat is (mapping) and what is needed to allow the habitat to persist (ecology).

Of the three levels of biodiversity (genetic, species, and ecosystem), ecosystem diversity is the most complex and least understood. It includes ecological communities, which are groups of plant and animal populations that share a common environment. Diversity of ecological communities can be considered from a local as well as regional point of view. The broadest view considers diversity of ecological communities and habitats across a region like New York State. As components of the ecosystem, species and their genes are protected when ecosystems are adequately protected. Finally, natural disturbances, such as fire, floods and landslides are essential to maintaining the diversity of some habitats on the landscape and for sustaining ecosystem diversity and health.

Healthy forests, wetlands, and fields provide many benefits to human communities and are a result of species interacting with the non-living environment. The production of oxygen, control of erosion, protection of aquifers, filtration of water supply, formation of soil, and the cycling of organic matter are a few examples. These are things society values, yet nature provides for free. Development sited without consideration of the natural systems that provide ecological services may interfere with the continuation of these natural processes.

How Can Open Space Planning Conserve Biodiversity?

Open space plan implementation is an important part of local biodiversity conservation, since it protects intact habitats and ecological communites. Each habitat is home to hundreds of species and habitat protection is essential to protecting the species that live there and the services the habitat may provide.

Poorly planned development fragments habitat. When already small parcels of land are further separated by development, they become too small to support the complex interactions of organisms required to maintain the ecosystem. Retaining larger pieces of undeveloped lands is important for reducing fragmentation and maintaining habitat connections. This can be accomplished by protecting open space networks in rural areas.

Protecting biodiversity with open space is often consistent with other open space planning goals. However, certain species and habitats are very sensitive to disturbance and some recreation goals may be incompatible in those areas. Once the biodiversity resources in protected areas are identified and prioritized by the community, the most sensitive areas can be protected from disturbance.

Open space is only one part of protecting biodiversity in a community, though it may be the most important. Other considerations that should be part of biodiversity in an open space conservation plan are comprehensive or master planning that considers natural resources, compatible zoning and subdivision regulations, best management practices (BMPs) for stormwater and wastewater, natural landscaping, and managing land for natural habitats. A discussion on these topics is beyond the scope of this guide. Books listed in the bibliography can help communities do this.

What to Protect?

If biodiversity is the whole of nature - what does a community protect? Priorities need to be made by the entity developing the open space plan based on its values, but there are some general principles to follow:

- Federal, State and regional rare species and their habitats should be protection priorities. Information on federal and State listed species can be found in the local DEC regional office and through the NY Natural Heritage Program. Regional rarities can be found by consulting biology professors at local colleges and universities, naturalists, or other research institutions.
- For overall biodiversity, much can be done to conserve biodiversity by protecting in-

tact and functioning habitat. Emphasis should be placed on linking habitats on land adjacent to already protected areas. Linking habitats also connects groups of the same species, which allows them to interbreed and maintain healthy populations. Larger patches of habitat are better able to sustain species and natural disturbance processes, such as fires, floods, seasonal water drawdowns, and wind exposure. Natural disturbance processes are essential for maintaining biodiversity and should be allowed to function wherever possible. Habitats to consider are wetlands, forests, caves and cliffs, and open uplands. Areas that are important due to their landscape context include stream corridors, shoreline areas and parks and preserves.

The following are general types of habitat and important areas local governments should consider in creating open space plans. These habitat types can be identified by readily available maps, photos and soil surveys. Species and habitat information will supplement open space work, and provide more specific guidance on protection and management.

Wetlands

A wetland is a transitional area between aquatic and upland ecological communities that often has qualities of both. Wetlands also occur where the groundwater is near or at the surface, saturating the soil and the root zone of the plants that grow there. Plant species that live in or near wetlands are adapted to the wet conditions.

An estimated 60 percent of the wetlands in New York State have been lost since the 1780s. Still, New York State harbors a great diversity of wetlands. From groundwater fed fens and precipitation dependent peat bogs to open marshes that absorb overflows from adjacent waterbodies to small pools that are only wet for a portion of the year, the New York State Natural Heritage Program describes 57 different wetland types (Reschke 1990, Edinger et al., 2002).

Wetlands are defined by their hydrology, landscape setting and resident species. Some are wet for a short time of the year and most of the time are not recognizable as wetlands, yet they are often very important wildlife habitat. The great variety of wetlands that exist support a wide range of species. Some wetlands, including forested wetlands, fens and bogs are so unique they cannot be replicated by wetland creation. The value of these wetlands is especially high because of the specialized wildlife that may be limited to these areas.

Wetlands perform numerous functions, such as removing and recycling nutrients from the water that flows through them. These functions, in turn, provide benefits to the environment and the community. For example, the benefit derived from nutrient removal is improved water quality. This water purifying function is valuable for a number of reasons, such as clean drinking water, safe recreation and secure fish and wildlife habitats.

To protect wetlands fully, the existing hydrology, or the way water moves through the system, must also be protected. Buffers around wetlands help protect hydrology for some wetlands, but others such as groundwater fed fens need other considerations. Leaving natural vegetation as a buffer around wetlands helps protect the wetland and downstream from fertilizers, pesticides, and erosion. Municipalities should also consider uplands adjacent to wetlands in their conservation efforts. Mole salamanders breed in wetlands, but use upland areas for foraging and hibernating. Protecting the wetland without protecting the associated upland habitat can result in the loss of salamanders from that wetland.

In order to protect wetlands for biodiversity and ecological function, a community can incorporate wetland protection into its zoning and other land use regulations. This should include wetlands protected by New York State and adjacent upland habitat in wetlands that harbor sensitive species. Local wetlands that are part of a larger watershed can best be protected and managed through intermunicipal watershed planning, which is described in the water resources section. However, because state and federal programs protect only 80% of New York's wetland resources, local conservation efforts are critical in filling this gap.

NYS Freshwater Wetland Maps are available from all municipal clerk offices, otherwise contact the DEC Regional Office, Syracuse Blueprint Company; 825 East Genesee, Syracuse, NY, 13210, (315-476-4084) or download from Cornell University: *www.cugir.mannlib.cornell.edu/index.html.*

Tidal wetlands maps are available by calling the NYSDEC - Stony Brook Office (631-444-0295) to identify the map number and writing Nassau-Suffolk Blue Print Co., Inc.; 350 Wheeler Rd; Hauppauge, NY 11788.

The US Fish and Wildlife Service maps wetlands under the National Wetland Inventory Program. These maps are available from the Cornell Institute for Information Resource Systems (see Contact List) or download them from www.nwi.fws.gov. County soil survey maps, available from your County Soil and Water Conservation District are also useful because organic and hydric soils are good indicators of wetlands.

Forests

A forest in the Adirondacks looks a lot different than a forest in the Hudson Highlands. Different trees, different shrubs and different animal species inhabit both. For example, it is unlikely to see a box turtle in the Adirondacks or a moose in the Hudson Highlands. Many different types of forest exist, which are defined by the plant species that live there. From chestnut-oak, and mountain spruce-fir forests, to maritime red cedar forests, the New York Natural Heritage Program describes 28 distinct forest types (Reschke 1990, Edinger 2002). The different plant communities also support different types of wildlife.

Succession: The natural, sequential change in the composition of a plant community over time. In New York, the natural tendency of plant communities is to turn into forest.

Forests provide multiple benefits for communities. In addition to the many species that use forests as habitat, there are numerous economic benefits: such as recreation, tourism and the forest products industry. Trees and forests also enhance a community's quality of life. They have aesthetic value, provide shade and cooling, reduce soil erosion, aid groundwater absorption, filter pollutants, and produce oxygen. Some species specialize in large forests, barred owls and bobcat, for example, and can disappear as forest lots become smaller and smaller. Large, intact forests are becoming less common as habitats are becoming more fragmented. Unplanned development leaves small parcels of land between developments that cannot sustain their original habitats, leading to a significant loss of species from the area.

To best protect forests, one should consider their size, condition, and type. Forest size is important, but how large is an unfragmented forest? It depends on the municipality. In a highly developed community, a five-acre lot with relatively mature trees is extremely significant. In more rural areas, you may consider 100, 500 or 1000 acre areas as most valuable. Lands connected to already protected forested areas are also extremely important. Research at The Nature Conservancy has shown that 15,000 acres of unfragmented forest is essential for the protection of the full range of forest wildlife and complete ecosystem function. Remember though, that forests in your community may be locally important, even if they cover just a few acres. This is especially true if a forest is near other important forest habitat.

Aerial photos, available from the United States Department of Agriculture through USDA Service Centers, also from the Cornell University Institute for Resource Information Systems, and sometimes from County Planning or Real Property Tax Departments can be used to identify forested areas. Digital Ortho Photo Quads (DOPQ), which are aerial photos at 1:24,000 scale are available from *www.nysgis.state.ny.gov.* The New York Natural Heritage Program provides maps of high quality and rare forest types.

Open Uplands: Shrublands, Grasslands, Barrens, and Farms

Open upland areas depend on disturbance of some kind to maintain their condition. Without disturbance these areas will naturally become forests over time. The soil will become enriched with dead plant material, trees will invade and the distinct plant assemblage of the open area will be lost. Many of these open areas support rare or declining species. The federally endangered Karner blue butterfly occurs only on inland pine barrens in association with the blue lupine plant, which is dependant on fire to germinate. Grassland birds are in decline statewide as farms are abandoned and revert to woodlands. Pine barrens, which occur on Long Island, in the Capital District and the Rome Sand Plains, are unique ecological communities that specialize in poor soil. If the soil becomes enriched with dead plant material, trees invade and the unique landscape is altered.

Many early successional habitats are in decline because of decreased frequency of disturbances. Disturbances include fire, floods, and blowdowns. Species in the natural environment are adapted to, and may be dependent on, these disruptions on the landscape. Some areas of these habitats are no longer large enough to maintain their own disturbance regimes. When a municipality or other landowner takes responsibility for the stewardship of such habitat areas, they need to consider management options that

will maintain the early successional habitat. For grasslands, this can easily be done by mowing once in November.

Farming activities, also in decline in New York State, mimic some natural disturbance processes and can be extremely important to biodiversity for that reason. The bog turtle, which is on the federal threatened species list, and a number of grassland bird species have survived and even thrived on active farms.

Cliffs and Caves

Cliffs and caves are exposed rock formations. Cliffs are vertical exposures of resistant rock with little soil and support unique species of lichens and ferns, as well as provide habitat for the state-threatened peregrine falcons and common ravens. Caves are either natural rock formations or abandoned mines. These areas are especially important for bats which are beneficial animals because they consume significant numbers of biting insects. A buffer is needed around the mouths of caves in order to support the species that use them, particularly bats. Both areas can be important for recreation, so the balance between recreation and protection needs to be considered.

Other Important Habitats

Shoreline habitats, stream corridors, and parks and preserves are important areas due to their landscape settings. These are collections of habitats that may include any of the others described in this chapter. Their settings make them unique in their exposure to disturbance, such as frequent flooding in stream corridors, tides in coastal areas, or in the case of parks and preserves, increased habitat value due to fully developed surrounding areas.

Shorelines

The shorelines of oceans, estuaries and large lakes are significant habitats due to their exposure to permanent natural disturbances. Ocean coastal and estuary shoreline habitats are influenced by tides, wave action, and salt water. This leads to an interesting collection of habitats including coastal salt ponds and salt shrub on the coast of Long Island, and brackish and freshwater tidal mudflats in the Hudson River Estuary. Beaches and dunes are also important features where rare species like the Roseate tern and beachgrass are found. Shorelines of large lakes including Lakes Ontario and Erie, as well as Lake Champlain, Oneida Lake and the Finger Lakes provide habitat for waterfowl. Shorelines are made of a variety of material, including sandy and cobble beaches that provide habitat for a variety of species. Beyond the shorelines themselves, dunes may be present, as in the Eastern Lake Ontario region. Maintaining and buffering these habitats also has value in reducing beach and shore erosion and increasing water quality.

Submerged aquatic vegetation (SAV) is critical for the support of the aquatic ecosystem. SAV grows in the shallow areas of lakes, oceans and estuaries and provides habitat and food for larval and adult fish, waterfowl, and the invertebrate species that feed them. These shallow vegetated areas, which are the most productive of aquatic systems, are also known as littoral zones. Protecting open spaces around lakes and along estuaries and limiting disturbance of SAV beds when boating will help support the aquatic ecosystem.

Riparian Areas (Stream Corridors)

Riparian areas are located along rivers and streams and are comprised of many other habitats,

Inland Poor Fen: Fens are wetlands fed by groundwater and cannot be recreated by mitigation.

such as wetlands, grasslands and forests. Riparian areas are also known as stream corridors or floodplains. Flooding naturally occurs along streams and is important to the wildlife that use riparian areas. The trees and other vegetation that grow along streams are adapted to frequent flooding. Green frogs, wood turtles, pileated woodpeckers, and redstarts are well known riparian residents.

Many other species of wildlife use riparian areas during a portion of their lives. Riparian areas are used for nesting, foraging, hibernating, migrating and access to water. In addition to wildlife benefits, healthy riparian habitats, particularly natural forested communities, provide a number of water quality and stream stability functions. The roots of riparian vegetation help to strengthen stream banks and provide resistance to erosion. Streamside vegetation creates habitat such as undercut banks where fish find refuge and overhanging tree limbs that cool the water and shelter macro invertebrates. Forested vegetation provides the primary source of energy (carbon from trees that drop their leaves in the fall) for life in small to medium sized streams.

Riparian areas can be identified by looking for streams and rivers on maps or locating 100-year floodplains on maps from the Federal Emergency Management Agency (FEMA). Wildlife may use riparian buffers with natural vegetation up to 1000 feet. Smaller buffer widths can provide benefits, such as protecting stream banks from erosion, and filtering excess nutrients and pollutants in runoff before they reach the stream. The NYSDEC requires a permit for alteration of the banks or bed of a protected stream or the bed of a navigable stream. Stream banks are defined as those lands within 50 feet of the mean high water mark or top of slope, if identifiable.

100-year floodplain maps are available from the Federal Emergency Management Agency Map Service Center 1-800-358-9616 or go to: http://*www.msc.fema.gov/MSC/;* NYSDEC maintains biological stream survey maps in paper and GIS format.

Parks and Preserves

Parks and preserves can be extremely important for biodiversity, especially in urban and heavily developed suburban settings. These include State parks, wildlife management areas, State forests, State reforestation areas, county parks, town and city parks, as well as private conservation land managed by lands trusts.

Natural areas within these protected areas are important wildlife habitat. An open space plan should consider the need to buffer parks and protect these ecosystems by strategically acquiring adjacent land or by effectively regulating land use around the park or preserve.

WATER RESOURCES

New York State has more than 52,000 miles of rivers and streams and more than 7,800 lakes, ponds and reservoirs, providing many benefits and opportunities for communities and tourists. Riverfront and lakefront property is in high demand because people want to have swimming, fishing, boating and other recreational activities at their doorstep as well as the scenic vistas that a shorefront property can provide. Rivers, lakes, and groundwater aquifers are sources of drinking water for New York State residents and are home to a variety of plants and animals. From coastal estuaries to freshwater mountain brooks, New York's water resources provide a rich diversity of habitats for many species of fish and wildlife.

The water quality of streams, rivers, lakes and groundwater aquifers can easily be degraded by changes in land use and development in watersheds and recharge areas. To protect water resources it is important to take a watershed-approach to appropriately direct changes in land use and development patterns, and explore opportunities to preserve open space. Preserving open space, such as forested land cover, is one of the most important steps we can take to proactively and effectively protect water quality.

This section will discuss how streams, lakes, rivers, wetlands and estuaries are connected by a watershed, how water resources can be degraded and provide tools for protecting water resources through open space planning.

Today, the vast majority of water quality impacts to a watershed are from nonpoint sources of pollution. The term nonpoint source is used in contrast with the more easily identifiable point source discharges from industrial and commercial pipe discharges, which are regulated by the State and federal governments. Land uses can contribute to nonpoint sources of water pollution; what is applied to the land, how the land is manipulated, and what type of land cover exists in a watershed all affect nonpoint source pollution loads. Nonpoint sources

are often diffuse and may not individually have a large impact on a stream or river system, but cumulatively can severely degrade water quality and the biological integrity of a stream system.

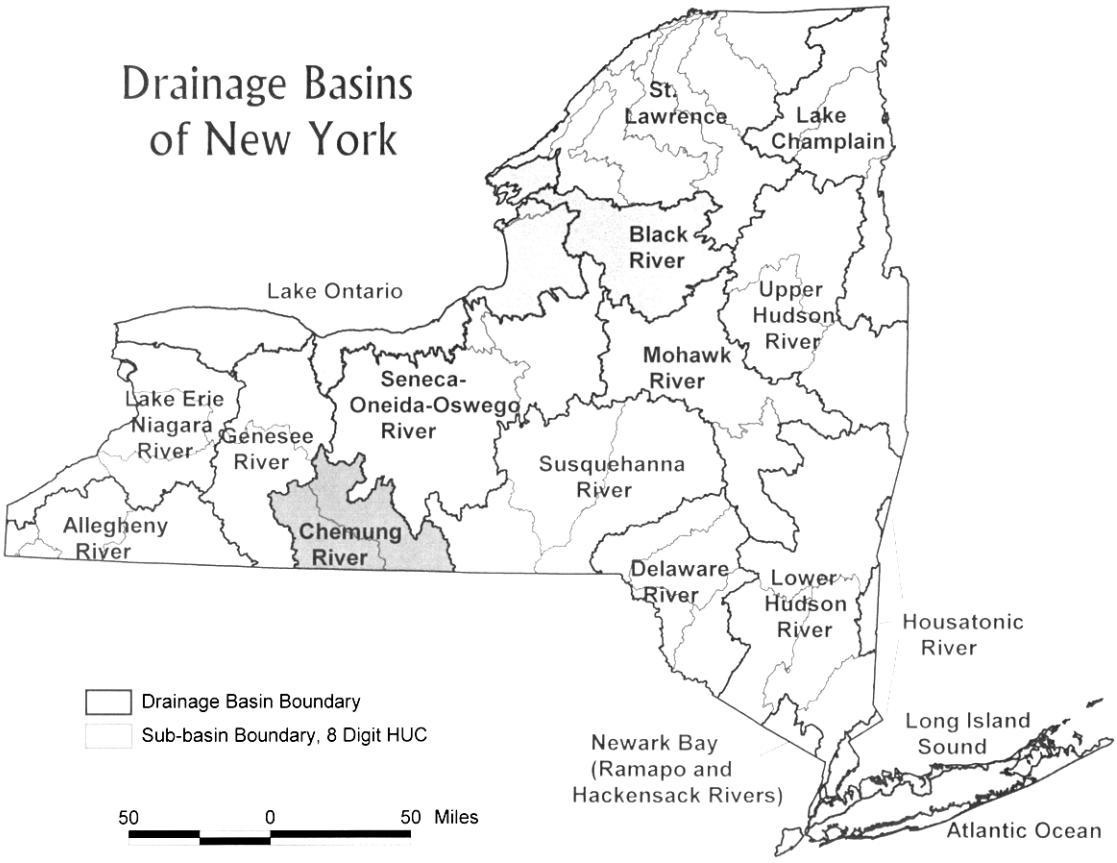
Nonpoint sources of water pollution include runoff from construction activity, impervious surfaces (e.g., parking lots, roofs, roads, sidewalks), lawns, logging or timber harvesting, and agricultural areas. Other sources of nonpoint source pollution and construction practices that can have negative effects on water quality and habitat include failing and leaking septic tanks, acid rain, and hydrologic and physical alterations to streams, such as channel diversions, bank armoring, and construction of dam lakes and ponds. Nonpoint source pollution can result in excessive weed growth, algal blooms, murky water, loss of habitat for aquatic organisms, stream bottom sedimentation, unstable stream channels, and swimmer's itch. In addition, toxic substances are often carried along with nonpoint source pollution. Some of these substances, such as pesticides and heavy metals, can accumulate in aquatic life and in terrestrial wildlife that are closely connected to the aquatic environment. This can lead to fish and wildlife consumption advisories and/or disruption of wildlife reproduction. Negative effects are not limited to natural resources, nonpoint source pollution can also imact the quality of drinking water supplies.

Protecting Water Resources with Open Space

Forested and vegetated open space can significantly minimize the adverse impacts on water quality from land use practices and development. Vegetated land cover protects water quality by filtering pollutants before reaching the groundwater and streams. Converting vegetated areas to paved surfaces increases the amount and velocity of water runoff, resulting in stream channel damage, such as erosion and sedimentation. It also reduces the amount of water that recharges aquifers. It may be best to keep certain areas in a watershed as open space to ensure public recreation opportunities and to protect water quality and aquatic habitat such as, floodplains and stream buffers; wetlands and their buffers; important groundwater recharge areas; lake shores; drinking water sources; estuaries and headwater areas.

Flood Plains and Stream Buffers

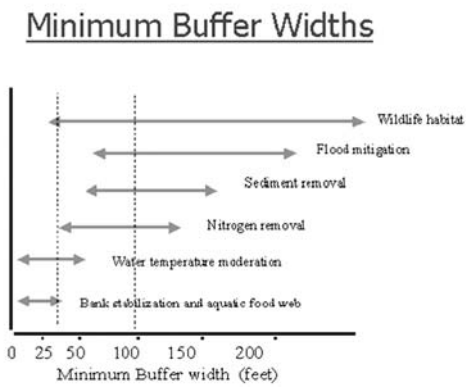
Inappropriate development along stream corridors can impact the water quality of streams, mar scenic views and lead to costly flooding problems. Livestock grazing on stream banks can contribute to the destruction of fish habitat as a result of erosion, sedimentation and nutrient loading from manure.



Vegetated buffers, also known as riparian areas, along stream corridors can help protect the ecological values of streams as well as provide recreational opportunities for walking and biking. Protecting stream corridors has multiple benefits, which include the following:

- Reducing velocity and volume of runoff into streams, which helps to stabilize streambanks and beds,
- Providing habitat for plants and animals that require the narrow band of land along rivers to survive, and
- Improving water quality through shading/cooling the water, filtering excess nutrients, sediment and other harmful pollutants, and adding important woody debris to the aquatic environment.

Although all streams are different, the following graphic provides a general guideline for establishing stream buffer widths and their associated benefits. A more detailed study may be needed to find the appropriate protection buffer for a specific stream or river. The New York State Department of Environmental Conservation requires a permit to alter the banks or bed of a protected stream within 50 feet of the mean high water mark. A protected stream is one with a C(T) classification or higher. Listed in



declining order of quality, an "A" stream is considered drinkable, a "B" stream is considered swimmable and a "C(T)" stream supports trout spawning. A local municipality may enact comprehensive regulations for all streams in its jurisdiction.

Wetlands

Wetlands are nature's sponges. They filter and recycle nutrients from the water that moves through them, which helps to ensure cleaner water reaches our water supply. Wetlands absorb and release groundwater which helps maintain constant supplies of surface water and therefore ensures a more predictable water supply. Wetlands also absorb and release surface flood waters, protecting landowners against flooding.

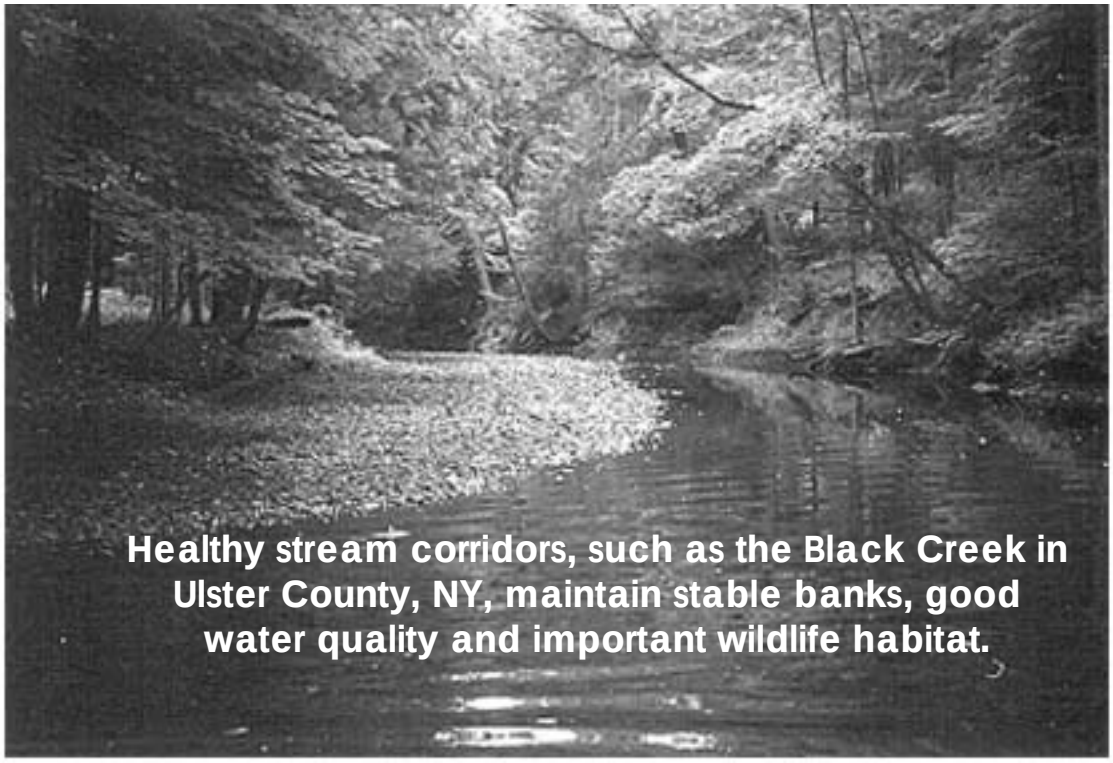
Wetlands Protection

The Town of Milton, Saratoga County, has protected sensitive environmental features in their 2001 Comprehensive Plan zoning ordinance update. All wetlands, steep slopes and floodplains are excluded from the buildable area at a site, so that all minimum lot requirements do not include these areas. Additionally, the Planning Board may require an on-site wetland survey by a professional engineer, surveyor, or wetland biologist. Also excluded are slopes greater than 15%, the 100-year floodplain, and wetland buffer areas. Any applicant applying for a site plan review, subdivision or special use permit must include the location of these sensitive areas in plan submissions.

Although protecting the wet area of a wetland provides numerous benefits to the ecosystem, it is also important to protect the adjacent wetland buffer from alteration. Buffers protect water quality and hydrology, and in doing so help ensure that a wetland will continue to provide its ecological services. Adjacent upland habitats are also important to many species of wildlife that use wetlands. Wetlands larger than 12.4 acres plus 100-foot buffers and smaller wetlands of unusual local importance are protected by the state Freshwater Wetlands Act. Inside the Adirondack Park, the Act protects wetlands as small as one acre. A permit is required to fill, grade or alter the wetland or buffer zone. Throughout New York State, wetlands that are one acre or larger and connected to a surface water system are protected by the federal government, but no buffer is included. These programs protect about 80% of New York's wetland resources. Local wetlands that are part of a larger watershed can best be protected and managed through intermunicipal watershed planning.

Groundwater Aquifers

Groundwater aquifers absorb and release water which helps keep surface water levels constant.



Healthy stream corridors, such as the Black Creek in Ulster County, NY, maintain stable banks, good water quality and important wildlife habitat.

Aquifer protection involves protecting the land in recharge areas where water enters the soil and replenishes an aquifer. This can be accomplished, in part, by limiting or restricting development on key parcels of land in acquifer recharge areas and in the watersheds of water supply reservoirs where groundwater may play a major part in replenishing a reservoir. These purposes also may be achieved by purchasing land in fee title or by conservation easement. When considering which parcels of land to conserve, a planning group should give special attention to those parcels in the recharge area of an aquifer or in the watershed of a water supply reservoir. Communities may need to consult a hydrogeologist to identify critical recharge areas worthy of protection in their area. In addition to providing open space, preserving this land will help protect the community's drinking water. Some communities or regions in New York State, such as the Tug Hill area and Long Island, have prepared groundwater or aquifer maps, but many areas do not have mapping resources for groundwater.

Lake Shores

Lakes can provide recreational opportunities, scenic views and water supplies, especially when development around them takes place in a responsible manner. Lakes are particularly sensitive to water quality impacts from nonpoint source pollution commonly associated with poor lakefront development and encroachment. Nutrients and fertilizers common to landscaping and gardening practices, golf course maintenance and agricultural practices can directly runoff into a lake or waterbody possibly causing eutrophication, algal blooms, weed growth and reduced oxygen levels. Failing septic-systems can have similar impacts to lakes by contributing excess nutrients and contributing harmful pathogens that can restrict public swimming and recreation. Septic systems should be constructed as far away from the lake as possible. Maintaining vegetated buffers around lake shores can help reduce or prevent some of the impacts of nonpoint source pollution, as well as provide important habitat and prevent erosion.

Drinking Water Sources

Public drinking water sources are sensitive to pollution inputs from their watershed, especially if the drinking water source is surface water. Nutrients and sediment, as well as other pollutants common to stormwater, in drinking water supplies can create the need for expensive water treatment technologies to yield safe potable water. Protecting public drinking water supplies by preserving open space in the drinking water source watershed can be a strategy that meets many recreation, natural resource, and public health goals.

Estuaries

Estuaries are where the freshwater from rivers and streams meet the salty ocean water. In these areas, one finds the mixing zones of saltwater tides and freshwater flows. In addition to providing habitat for a diverse community of fish and wildlife, humans rely on estuaries for transportation, recreation and as a food source. Coastal habitats, such as marshes and tributaries, warrant open space protection because of their important connection to key life cycle stages of many species of resident and migratory fish and wildlife. Development occurring in an upstream watershed or encroaching into the important estuarine habitat (such as the upland buffers around marshes and shallows and mouths of tributaries) can severely diminish stream habitat and water quality. Degrading these habitat areas can have an impact on the overall estuarine ecosystem, extending well beyond the immediate, localized vicinity of the coastal environment. Open space planning in estuarine areas should also consider important areas for tourism and water recreation activities. Estuaries in New York State include the Hudson River, St. Lawrence River, Peconic Bay and Long Island Sound.

Watershed Planning

Beyond the specific candidates for open space protection, a proactive watershed planning program should be in place to ensure that watersheds are not overdeveloped in the remaining upland area. Watershed planning provides tools and strategies for protecting downstream habitat and water quality.

A watershed is the land area that drains to a common outlet, such as a stream, river, lake, or estuary. Watersheds are not only the streams, ponds, wetlands, and waterbodies that drain to a common place, but also the fields, forests, parking lots, yards, parks, and other upland acreage that drains into the waterbody of interest. Typically, less than one percent of a watershed is actually water. Watersheds can be of vastly different sizes, ranging from square acres for a small wetland to thousands of square miles for an area like the Lake Ontario Basin.

Watersheds are dynamic hydrological systems. Nutrients, organics, sediment (soil), as well as pollutants can be carried many miles downstream from their source. Poor development practices and overdevelopment in the watershed of a stream, river, or lake can, and often does, lead to nonpoint source pollution impacts in other parts of the watershed, such as in a downstream lake or stream.

A direct relationship exists between percent impervious surface area and water quality. As the area of impervious surface and development increases, water quality declines and the ecological integrity of a river or lake will likely be impacted. This can be the case even in areas where stormwater is considered to be well managed through best management practices. To ensure watersheds are not overdeveloped and adequate vegetated open space is protected, communities should begin to plan on a watershed basis, going beyond political boundaries. A very effective way to protect water quality in a stream, river, or lake, is to consider development impacts in any watershed planning process. If the watershed extends into other municipalities and communities, they should work together as partners in watershed and open space planning. Water quality impacts can extend far downstream and the activities of upstream communities can impact the water quality of downstream communities.

Planning on a watershed-level provides many other benefits beyond water quality, including a

Intermunicipal Watershed Planning

The Dutchess County Environmental Management Council and the Dutchess County Soil & Water Conservation District spearheaded a watershed planning process in the Wappinger Creek Watershed in Dutchess County in 1996. The project included forming a Watershed Planning Committee, land use and natural resource mapping, water quality data collection, watershed modeling, and preparation of a Watershed Management Plan with community input. A Watershed Intermunicipal Council was formed in 2000, and is presently considering various implementation options for watershed management. Education on wetlands, watershed management and community leadership was conducted throughout the process, in cooperation with Cornell Cooperative Extension of Dutchess County.

mechanism to link terrestrial and aquatic environments within a natural boundary, rather than trying to manage and protect natural resources using political boundaries. Watershed planning can provide a multi-disciplinary strategy to address multiple natural resource protection, recreation, and economic development interests into one cohesive, proactive approach to community growth and development. Planning on a watershed level allows multiple communities to come together to protect natural resources and ecosystems, which extend beyond their political boundaries, and ensure that the resources are considered as the community grows.

Two watersheds where natural resource planning and implementation are successful at a watershed-level, are the Cayuga Lake in the Finger Lakes Region and the Wappinger Creek, a tributary to the Hudson River. Both efforts are being undertaken by a diverse steering committee, including local officials. The Cayuga Watershed Protection and Restoration Plan and Natural Resource Management Plan for the Wappinger Creek Watershed are providing roadmaps to help communities in those watersheds plan for the future and protect and restore their natural resources.

WORKING LANDSCAPES

Agricultural Resources

Working farms in New York State are an important resource because they provide a livelihood for many people and fresh, local food for everyone. The 1997 Census of Agriculture identified 31,757 farms in the state, occupying 7,254,470 acres of land. This is down from 38,000 farms on 8,200,000 acres in 1992. Farms are important to local economies and to the state economy as a whole. If these businesses thrive, farmland will remain in agricultural production and communities will retain the open space benefits that they provide. Agricultural land provides food and fiber, exports, jobs, open space and wildlife habitat that are all essential for human survival and the quality of life.

Productive farms and farmland often have cultural and historical significance. Working farms represent a way of life that was once much more common in New York State. Farmland protection helps retain a rural and often scenic environment that has been fast disappearing primarily due to surbanization over the last half century.

As cities expand, high quality agricultural land is often developed for other uses. Sometimes farmers must move their operations to land that is of lesser quality. Marginal land requires more irrigation, energy, chemical fertilizers and pesticides in order to remain productive. An open space plan should consider ways to preserve both working farms and high quality soils that have the potential to be productive farmland. If high quality soils are covered by development, the farmland potential is lost.

Protecting these areas keeps new farms from using marginal soils that require more fertilizers and other inputs that can pollute other natural resources. Protecting farms also conserves natural habitats. An average farm in New York State is 40% wooded. Hayfields and pasture are also important for many species that depend on disturbance such as the federally threatened bog turtle and grassland birds.

Forest Resources

Forestlands and woodlots are important aspects of open land. They contribute greatly to the environmental and economic health of both urban and rural communities. Forest resources include working landscapes that provide a livelihood for people in rural areas and habitat and green space in more developed parts of the State. Shade trees lining community streets or gracing people's backyards also contribute to forest resources.

There are 18.6 million acres of public and private forests in New York State. It is not generally realized, but more than 60% of the entire State is forested; forest cover has increased greatly throughout this century as a result of farmland abandonment. Forest resources provide an economic base for many communities by affording opportunities for traditional timber harvesting jobs and by providing raw materials to support wood product industries. In addition, they support the growth of the recreation and tourism sectors of the economy. Forests provide many assorted open space and recreational benefits such as hiking, hunting, camping and passive recreational opportunities. Forests help to buffer the effects of stormwater and urban runoff. They provide shade and wind breaks and help reduce noise. Numerous plant and animals are common to forest lands.

Most of the forestland in the State is privately owned. When preparing a local open space plan, major landowners should be consulted to determine whether they are willing to have their land be part of a local open space system and, if so, in what capacity. For example, it would be useful to find out if they are willing to allow public access for hunting, hiking or other recreational uses and under what con-

ditions. Many of the private forests in the State have limited or nonexistent public access which may be due to the landowner's fear of legal liability for accidents that might occur. The lack of respect that some people have for private property also may be a disincentive for landowners to provide access to their land. The need for public education and enforcement of local ordinances continues in this regard.

If a parcel of private forestland is not available for recreational use, it may still provide economic, watershed and/or scenic benefits to a community. Measures should be taken to keep the property intact, to encourage management for its long term viability for forestry purposes or, as a last resort, to plan development within it in a way that will minimize the impact and maximize the amount of usable open space that will remain (e.g., requiring clustering and protection of environmentally sensitive areas).

Urban and Community Forestry

Urban areas benefit in many ways from an abundance of trees. In addition to creating a more livable environment, urban trees and forests enhance property values, make downtown shopping areas more enjoyable and corporate parks more comfortable and less stressful. Trees can enhance and improve the visual and aesthetic qualities of the city. Trees buffer noise, freshen the air, screen visually discordant objects and provide shade and beauty to the neighborhood. Trees properly placed around a building can keep it cool in the summer and can block winds in the winter, thus saving energy by reducing the costs of cooling and heating.

Collectively, the trees in an urban area are referred to as "the urban forest." Urban forests require maintenance and care to ensure their health. They also require proper planning in order to be maintained or expanded. Communities can be greatly improved and open spaces made more beautiful and enjoyable if a community forestry program is established.

Three surveys of New York's forest resources can help a community inventory its forest resources. The New York State Forest Resources Assessment Documents, published by DEC, are a series of 24 technical reports that provide a broad range of information about many aspects of forest resource use. They can be obtained from the Division of Lands and Forests at DEC in Albany - call (518) 402-9405. In northern New York, the Northern Forest Lands Inventory is a GIS-based natural resource data base that is available for public use and planning. Finally, the U.S. Forest Service Decentennial Forest Survey provides specific information about the extent, location, ownership, use and growth of New York State's forest resources which have been collected on a ten year basis. The Division of Lands and Forests can copy and send the relevant information from these reports to those who request it.

DEC Regional Foresters can be contacted to provide suggestions and information on forest management techniques and options and to provide assistance with establishing a Tree City USA.

RECREATIONAL RESOURCES

Open space resources often have multiple values and functions. For example, agricultural land to which the owner has allowed public access, may be scenic and may have historical values while also providing recreational opportunities, such as fishing or hunting. However, certain open space resources are best suited to providing recreational opportunities. These include urban open spaces, state, regional and local parklands, public access sites, water-based recreation and trail systems.

A local open space plan should give particular attention to conserving resources that provide a community with outdoor recreation opportunities. This section describes the types of open spaces that can be included in an open space plan to ensure diverse recreational opportunities for people of all ages, abilities and interests.

A local open space plan should also consider what kinds of resources may not be readily available for recreational activities because of limited public access. Easements, cooperative agreements or acquisition of key parcels of land are some of the methods that can be used to create access to trails, water bodies and public lands.

Public Access

Public access can refer to visual, physical or recreational access to natural or cultural resources. Boat launching sites are needed along lakes, streams and marine shorelines to allow people to have access if they do not own property along the water. Communities are more pleasant places to live when their residents can have visual and direct access to diverse views across water bodies.

Access to trail systems requires trailheads and parking areas. The type of access that communities

need will vary. In some cases, access across private land may be needed for a trail to maintain continuity. Access to state land, which may be surrounded by private land or which may have poor access, also may be needed. In some cases, an easement might be obtained from a landowner to allow people to cross the land for certain specified purposes, such as hiking or launching a boat.

Some landowners may be reluctant to provide public access to their land because of a concern that they would be legally liable for accidents that might occur. However, under the General Obligations Law, landowners are not liable for injuries to people who are engaging in any of the recreational activities that are listed in the law. This law covers a wide array of recreational activities, including hunting, hiking, cross-country skiing, horseback riding and bicycle riding, among others. This exemption does not apply where the landowner charges for use of the land for recreational purposes or where the injury is a result of the landowner's willful or malicious conduct. If entry onto the private land involves activities other than those that are mentioned in the law, then the landowner may not be protected if a person is injured.

Local Parks and Open Spaces

Urban open spaces range from large parks with natural areas, playing fields or playgrounds to small "passive" parks with a few trees and benches. Urban open spaces can include community gardens, tennis courts, a path through an urban woodland or along a stream corridor or a small water body. They could be a well-landscaped median strip along a major boulevard or a park plaza around a major downtown office building. Urban open spaces serve recreational and aesthetic purposes and can greatly enhance neighborhoods. These resources can provide areas for walking, hiking, nature study, biking, tennis, basketball, picnicking, social interaction or just relaxing.

Urban open spaces are often difficult to preserve if they exist in the middle of an intensively developed community and, therefore, are under pressure to be developed for housing, offices or other purposes. An open space plan should recommend specific parcels of urban land for retention as passive or active recreational open space.

State and Regional Open Space Lands

Preserving land for use as a state or regional (county or multicounty) park is important, not only for its regional open space and recreational value, but also for environmental education, research, protection of habitats and protection of the natural environment. These parks generally serve a large population and may provide a spectrum of recreational opportunities, such as camping or cross-country skiing, activities that can not be accommodated in smaller local parks.

State parks have been established to protect many of the state's most scenic and environmentally important resources. These resources include ocean beaches, mountains, cliffs, gorges, lakes and rivers. Other state-administered areas that provide significant outdoor recreational opportunities and should be considered in local open space planning include Wildlife Management Areas, Reforestation Areas, Multiple Use Areas and the Adirondack and Catskill Forest Preserve. These lands are managed by the NYS Department of Environmental Conservation.

Other regional open space lands include private conservation lands open to the public. These are lands owned and/or managed by a nonprofit organization. The Nature Conservancy, Open Space Institute, Scenic Hudson, and local land trusts are examples of some of the non-profit organizations that own or manage land in New York State.

Many of the natural areas and features within State and regional parks are fragile and depend on areas adjacent to the parks to remain viable and healthy. When development encroaches upon parkland, either directly or indirectly, the environmental quality of the resources within the park may be threatened. An open space plan should consider the need to buffer parks and protect their ecosystems by strategically acquiring adjacent land or by effectively regulating land use around the park. The fragile resources within parks can only withstand intensive use and be enjoyed if the quality of the surrounding environment remains high.

Trails and Trail Systems

Trails and interconnecting trail systems are linear recreation facilities on land or water which provide linkages between various natural or cultural resources, recreation facilities or public access to other areas. They can provide recreational opportunities as diverse as cross-country skiing, nature study, hiking, bicycling and horseback riding. Existing linear systems such as railroad corridors, utility rights-of-way and stream corridors provide a good opportunity for the development of trail systems.

These features should be inventoried in the open space plan and considered for trail development. In addition, trail systems should be considered in a broader context, within greenway systems. Not all greenways have trails in them, but many do.

Many types of organizations can join together to develop a specific trail or trail system. National, statewide and local organizations deal specifically with trail development, such as the national Rails-to-Trails Conservancy and the regional NY/NJ Trail Conference and can provide assistance.

SCENIC RESOURCES

New York State is blessed with outstanding natural scenery from the high peaks of the Adirondacks, the breathtaking Niagara Falls, and the renowned Hudson Valley, to the Finger Lakes, the beaches of Long Island and Lakes Ontario and Erie. Scenic and aesthetic values usually overlay other values. A wetland, for example, may provide a habitat for important species while, at the same time, provide open vistas along lake shores or sea shores or it may have scenic qualities in its own right. Roads, particularly scenic roads and scenic byways should be considered public space and may be important viewpoints. Views of and from waterways, especially rivers, bays and harbors, need to be protected. Scenic and aesthetic values have been well recognized by the courts. Identifying them helps to ensure their protection and preservation.

A scenic community entranceway may symbolize the character of a community and attract people to spend time there. Aesthetic resources such as a mountain or a waterfall might attract people who want to have access to it or live nearby. These fragile resources need to be protected so that as increasing numbers of people settle near them, they will continue to be undamaged and enjoyed.

A community may have certain human-made features that interfere with or diminish the scenic or unique value of an area. For example, a proliferation of unregulated signs, billboards and poorly designed development, i.e., development out of character and/or scale with the surrounding landscape, may clutter the landscape and mar an otherwise scenic view. There are several controls that municipalities can use to maintain scenic values. Communities can enact laws that limit the size of signs and billboards. Zoning ordinances and design guidelines can be developed to regulate the appearance of development. With the proliferation of wireless communication, cell towers are appearing all over the countryside. Cell towers are commonly sited on ridgelines in order to capitalize on the elevation, which increases the length of the signal. They are commonly designed as utilitarian lattice or monopole towers tall and stout enough to accommodate antennas of several wireless providers. This approach to siting may provide the most efficient system buildout, but, unfortunately, it also poses a serious negative impact on our landscape because towers are highly visible on ridgelines.

With local regulation that encourages sensitive and appropriate design, wireless telecommunication is possible without jeopardizing the visual quality of New York's open space. Following are some guidelines that can prevent the degradation of open space visual quality:

- Groups of contiguous municipalities or counties should work together to develop a unified approach to regulating wireless facilities;
- Encourage cell tower siting on side slopes of hillsides rather than ridgelines;
- Require camouflage or stealth treatment to disguise towers that would be visible from parks, recreation areas, nature preserves, scenic byways or roads, historic sites or important viewsheds;
- Scale and design of cell towers (whether standard or camouflaged) should be thoughtful and appropriate. For example, a 160-foot stealth tree looming above a grove of 60-foot trees would look out of place and, thus, is not an appropriate solution;
- Be wary of co-location as an approach to minimizing the visual impact of wireless facilities. While co-location may reduce the total number of individual towers, the towers necessary to accommodate multiple facilities must be taller, wider and visually more obtrusive than those with one set of antennae.

The first step in protecting views in your community is to identify them.

Scenic America is a national organization dedicated solely to protecting natural beauty and distinctive community character. Its website has fact sheets, publications and links on view assessments and other topics for use by communities seeking to protect their scenic resources.

The New York State Scenic Byways Program is administered by the NYS Department of Transportation *(http://ww.dot.state.ny.us/scenic/descript.html)*. Communities can nominate a local, county or state road under one of the following themes: scenic, natural, recreational, cultural, or historical. Nominated sites are reviewed by the Scenic Byways Advisory Board. If approved, a corridor management plan is developed for the byway. Information on the application process is available on the website.

HISTORIC RESOURCES

Historic properties are a tangible link with the past that help provide a sense of identity and stability for a community. Historic and cultural resources include a great variety of property types, such as buildings and structures, historic districts, archaeological and paleontological sites and natural heritage areas. Many of them are associated with significant open spaces. Examples of historically significant open spaces include estates, parks and gardens designed by noted landscape architects, battlefields and vernacular landscapes such as the stone wall-lined fields of eastern New York that illustrate the traditional agricultural practices of the region.

Visiting historic sites is an enjoyable recreational activity that provides people with an opportunity to learn about the culture and history of an area. A commitment to protecting and rehabilitating historic sites can be an important recommendation in a local open space plan. Unfortunately, many historic sites and areas face demolition, neglect and deterioration.

New York State enabling legislation allows local governments to protect historic properties through purchasing, restoring, operating, leasing, acquiring fee title or interests, providing for transfer of development rights, regulating and establishing historic preservation boards. Approximately 150 New York State municipalities have enacted some form of historic preservation regulations and most of these municipalities have established historic preservation commissions. Historic preservation legislation affirms a community's commitment to protect and enhance historic resources.

Local preservation laws take a variety of forms but typically provide for the designation of landmarks and/or historic districts, the establishment of an historic preservation commission to administer the law and a process for reviewing construction projects that will affect designated properties. A model local historic preservation ordinance is available from the NYS Office of Parks, Recreation and Historic Preservations' Field Services Bureau.

Local historic preservation commissions are usually given the authority to designate properties as landmarks or to designate groups of properties as historic districts and then review proposed changes in the districts. A historic district is an area in a community which has historic or aesthetic interest as part of the cultural, political, economic or social history of the community, region, state or nation. The area must also be a distinct geographical section of the municipality.

An historic preservation commission's authority depends on the powers given to it in the local law that establishes it. When an application for a project that may affect historic properties is submitted to the planning board, the local historic preservation commission reviews and comments on it. The local law can require projects which may affect historic resources to be referred to the historic preservation commission.

Direct technical assistance and public education are provided by the OPRHP's Field Services Bureau (FSB). FSB staff can assist those who are preparing a local open space plan with the identification of historic landscapes and other historic sites and features. The FSB administers State and federal programs that are concerned with historic preservation.

The National Register of Historic Places is the official list of the nation's important historic properties. The State Register parallels the federal program. Nearly 60,000 sites in New York State currently are listed on the national and State registers. To register a property, the sponsor must prepare a nomination form for review by the State Board for Historic Preservation. The FSB staff can provide assistance. Listed properties are more likely to be considered in planning for development and redevelopment. Also, register listing is usually a requirement for grant programs such as the Environmental Protection Fund Historic Preservation Grants and the tax credit program. These and other financial assistance programs are discussed in the funding section of Chapter 4.

Those who are preparing or implementing a local open space plan may want to nominate certain resources for the State and/or federal registers, and

they may find it helpful to consult the registers when preparing an inventory of open space resources. Both the State and federal registers make it possible for local governments and groups to obtain recognition for important historic resources.

Archeological resources are important to consider when identifying and protecting historic resources because they can reveal otherwise unobtainable information about a community's past and contribute to the community's understanding of itself.

The National Historic Preservation Act and the State Historic Preservation Act extend the same protection and benefits to archeological resources as they do to historic buildings, structures and districts. Some communities have comprehensive archeological survey programs, while others provide for surveys, often at the expense of developers, in advance of any development that will disturb the ground. Including archeological resources in an open space resources survey can be a valuable contribution to the plan.

CONNECTING IMPORTANT OPEN SPACE AREAS

Connected open spaces often have greater recreational, habitat or scenic value than isolated parcels of land. When areas of importance are mapped, they can fall into patterns of connected open space. Open spaces can be connected by natural or manmade linear features, such as a stream corridor, an old canal or an abandoned railroad line.

Greenways

Greenways are linear features or areas of land that can be comprised of any number or combination of the natural and cultural resources examined in this chapter. They link recreational, cultural and natural focal points while conserving open space. The term represents a conservation planning and management concept that is very flexible in its scope. Greenways may contain a mixture of public and privately owned land and they may extend over more than one political jurisdiction. Greenways can be located wholly within or encompass urban, suburban or rural areas. Some larger greenways include hamlets, villages or even cities within them. The Hudson River Valley Greenway, the Upper Delaware Scenic and Recreational River, Genesee Valley Greenway and the New York State Canal Recreationway are examples. Not all greenways have trails within them, but many do, including the Hudson River Valley Greenway, the Canal Recreationway and Genesee Valley Greenway. The Appalachian Trail is a greenway whose entire focus is a trail. Greenways vary considerably in length and width and they serve a variety of purposes. A single greenway may encompass some or all of the purposes described below.

Urban greenways

An urban greenway may consist of a ribbon of meadows and woodlands winding through a city, providing places to relax and offering a refreshing natural break in an otherwise harsh urban environment. An urban greenway might be established along a waterfront to revitalize a community.

Recreationways

A "recreationway" is a greenway that serves active and/or passive recreational purposes, while linking recreational, cultural and natural focal points. A good example of a recreationway has been developed by the New York Power Authority, other state agencies and local governments along 35-miles of the Saint Lawrence River, between Ogdensburg and Massena. It includes hiking and biking trails, public access facilities, primitive camping and day use areas and a small boat trail through the islands. It emphasizes tourism and recreational benefits.

Scenic and historic routes

These greenways connect scenic and/or historic sites and may include roads that people can drive on. Ideally, this type of greenway will include places to walk or pull off the road. Parkways are the epitome of this type of greenway.

Ecologically significant natural corridors

These greenways protect ecological resources and provide habitat for many species. In order to do this, they need to be wide and have natural vegetation. They can also provide natural corridors for wildlife migration when they connect larger patches of habitat like state land or a large county park. Many ecologically significant natural corridors overlay stream corridors. Greenways which protect natural resources provide excellent opportunities for nature study.

Greenbelt

This describes a greenway which consists of a ring of county or regional parks or forest land around a city or metropolitan area, specifically planned to contain an expanding urban area and provide a natural break between the city environment and the open countryside. For example, the Town of Trenton, in

Oneida County, is creating a greenbelt between the villages of Barneveld and Holland Patent by obtaining conservation easements. The project was started by private landowners and has evolved to include public officials, the CAC and Tug Hill Tomorrow, Inc., a regional land trust. The necklace of parks and other public and quasi-public land that partially encircles the New York City Metropolitan area, in suburban counties north of the city, also reflects a greenbelt strategy.

Conceptually, greenways, greenbelts, recreationways and greenline parks are variations on the same theme. They emphasize the idea of creating partnerships between the various levels of government and the private sector for resource planning and management purposes. Greenways also can promote regional awareness and appreciation of larger recreational, natural or cultural resource systems. When a community has a regional perspective on conservation and development, poorly planned development and urban sprawl are more likely to be avoided.

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CHAPTER 4:

OPEN SPACE CONSERVATION TOOLS

What are the available techniques that can be used to conserve open space resources? How can the plan and its recommendations be funded? Here are some suggestions.

The increasing development experienced in many municipalities across New York State has increased the awareness of the importance of open space by local government, involved agencies, grassroots organizations and residents. Once an open space plan has identified which resources are important, the plan also needs to identify ways to preserve them. Conservation is most effective when the techniques are used together. Each municipality encounters unique situations for which a combination of conservation solutions may need to be used. A technique that is suitable for one situation may not be suitable in another.

Local governments have various authorities to do this, such as by regulation of land development and the purchase of land or tax policy. Grant and financial assistance programs described in this chapter can be used to fund plan preparation or can be identified in the plan as sources of funding for conservation initiatives. Groups preparing an open space plan should be aware that the techniques and sources of funding described in this chapter are ever-changing, with new ones being added and old ones being modified.

As discussed in Chapter 2, local comprehensive planning provides a framework for open space planning. The techniques discussed below can be implemented to achieve open space goals while at the same time achieving the broader goals of a comprehensive plan. Open space planners must determine which techniques will work best for their particular community situation. Some of these techniques may be in operation already. Others may require legislative enactments by the local governing body.

LOCAL CONSERVATION TECHNIQUES

Voluntary Programs

Private landowners can help implement a local open space plan by voluntarily agreeing to practice good land management techniques. They also can participate in voluntary stewardship agreements that indicate a strong commitment by the landowners to preserve their land. In some cases, a landowner might agree to allow people to engage in certain activities on his land, such as nature education, hiking or hunting, at specified times.

Although voluntary conservation programs do not guarantee protection or accessibility of open space resources, they can enhance an open space plan and, if widely used, they can greatly improve a community's open space system.

Deed Restrictions/Restrictive Covenants

It has long been the practice of developers of residential properties to voluntarily restrict the use of a portion of the property in order to provide an amenity such as open space through deed covenants, restrictions and easements. For example, the deed that a lot owner receives may also convey ownership in common with other lot owners to a common area. This easement usually provides that the common area may not be developed except for specified purposes relating to open space and recreation. Typically the individual lot owner has a right to bring a legal action against others who seek to develop the property for more intensive uses. Even earlier than the now widespread use of easements to preserve open space in land developments, individual landowners often imposed deed restrictions when selling a portion of their property, to ensure that subsequent owners would not use it for objectionable purposes. Many deeds, for example, contain restrictions against establishing gambling houses, keeping of livestock, cutting of mature trees, etc. Unfortunately, these private deed restrictions and easements often become unenforceable when circumstances change, or individual property owners are unaware of their abilities to preclude certain uses.

Conservation Easements

An easement is a voluntary agreement made between the property owner and an appropriate third party, such as a land trust or public agency. The easement is a legal device for conveying the right to enforce restrictions on the use of the land. This allows the purchaser to acquire partial rights to a parcel of land instead of acquiring all of the rights in fee

simple. Acquiring land in fee simple means you own all of the rights to that land. Conservation easements impose restrictions on the land and can readily be used to conserve open space or to protect valuable environmental areas. They have become an increasingly popular tool in land conservation because of the many benefits available to landowners.

Sections 49-0301 through 49-0311 of the Environmental Conservation Law (ECL) provide the authority for not-for-profits or municipalities to use such a tool. This statute permits a not-for-profit or municipal entity to acquire conservation easements for the purpose of conserving, preserving, and protecting the environmental, historical and cultural resources of the State, including the development, and improvement of agricultural lands. Municipalities should look to this statute when considering all aspects of the conservation easement, including: recording, indexing, enforcement, amending, and extinguishment of the conservation easement. Section 49-0307 of the ECL establishes that a conservation easement that is properly filed and indexed is of perpetual duration, and can only be extinguished pursuant to this section.

In 1984, prior to the passage of this law, the courts sometimes considered a conservation easement to be a two-party contract which could be readily broken if there was a change in the ownership of the fee title interest and the new owner did not want to honor the terms of the contract. Under the ECL, easements are recorded on the deed and they become part of the chain of title records for the land. An easement runs with the land - that is the original owner and all subsequent owners are bound by the restrictions of the easement.

Advantages exist for the community and for landowners who donate conservation easements. The donation of easements allows the community or some third party to receive the open space benefits of the land without the cost of owning, managing and maintaining the land. Furthermore, when a conservation easement is donated, there are several tax benefits that accrue to the donor. They may be able to take an income tax deduction for the difference in the fair market resulting from the donation of development rights. This would be done pursuant to the conditions of Section 170 of the Federal Income Tax Code. Also, donors may be able to reduce both estate and gift taxes to those they may ultimately grant the property to, either by gift or bequest.

For municipalities, an important benefit of conservation easements, under the statute, is that they can be enforced by a third party named in creating the easement. This is usually a not- for-profit organization such as a land trust. By doing so, a municipality has the legal authority to delegate its monitoring and enforcement responsibilities to the land trust or not-for-profit organization, still leaving them with the benefit of the preserved land. Furthermore, since organizations such as land trusts have greater financial and procedural flexibility than local governments, the environmental needs of communities may be better served.

In order for a nonprofit organization or public agency to acquire and enforce an easement in perpetuity, several steps should be followed. First, the property should be inspected and the condition of the property documented. Along with this, an inventory of the important resources of the property should be done. Secondly, the title should be assessed to both identify the legal owner of the land and to get the required property description. If the property is mortgaged, the lender must transfer property rights to the easement holder, to ensure that the easement will remain intact even if the lender forecloses.

The conservation easement must be specific, thus information that is not specifically addressed is not affected. For this reason, negotiating the specific restrictions of the easement is the most important part of the process. Along with the specific terms of the agreement, the easement should also contain a monitoring program. For enforcement purposes, this program puts the landowner on notice that he or she must comply with the terms of the easement. If a holder fails to inspect or enforce the terms of the agreement, a court may find this neglect to lead to extinguishment of the easement. It is important to note, that enforcement of the easement may only be pursued by the holder of the easement. However, if the holder of the easement is a not-for-profit organization, then the Attorney General also may enforce the agreement.

The restrictions and uses agreed upon between the parties should be prepared in the form of a legal document. Additionally, a formal appraisal of the fair market value of the easement should be prepared and if the easement is not being donated, a price should be agreed upon. After these steps have been completed, the parties must sign the agreement and record it in the office of the local Recorder of

Deeds. Finally, as required by the statute, the agreement must be forwarded to the DEC where a file is maintained of the conservation easement.

An important question for a municipality when considering a conservation easement is whether or not affirmative obligations are enforceable under the legislative scheme. An affirmative obligation would be one which requires the landowner to maintain the property in a specific manner, such as the color or condition of the exterior surfaces of existing buildings. However, New York courts are among the minority of jurisdictions that prohibit affirmative obligations that run with the land. The court's position then is in direct conflict with New York's conservation easement statute. The statute provides that affirmative obligations will not be used as a defense to defeat enforcement of the easement. Therefore, if the issue were raised in court, it seems as if affirmative obligations would not be binding in perpetuity or upon subsequent landowners. This dilemma has yet to come before the New York courts and is still unanswered.

Land Trusts

Land trusts are extremely effective vehicles for conserving land. While they are independent entrepreneurial organizations that work with landowners interested in protecting open space, they often work cooperatively with government agencies. Land trusts can accept donations of land, funds to purchase land, or development rights that permanently limit land development, or they can purchase land for permanent protection.

In addition to land trusts, there are other nonprofit land conservation organizations that have been involved in protecting significant recreational, environmental and cultural landscapes throughout New York State. For example, the Open Space Institute (OSI) and Scenic Hudson have made substantial positive impacts on the landscapes of the Hudson Highlands, Shawangunks, Catskills, Helderbergs and Adirondacks, in addition to providing New Yorkers with access to the Hudson River and its many tributaries. Some other major nonprofits are The Nature Conservancy and the Trust for Public Land. These organizations often work together in their land conservation efforts and pool their resources. While they work to protect large landscapes, they also help citizen-based groups focus on smaller local initiatives.

MUNICIPAL OPEN SPACE REGULATIONS

Local Land Use Regulations

Zoning

Local governments regulate the kinds of uses that are allowed on the land through zoning. Zoning is used to regulate the use of land, but also to regulate the intensity or density of the use and the siting of development on the land. Zoning regulations include a zoning map that divides the municipality into districts or zones, with text describing the regulatory requirements for each of these zones. The zoning board of appeals may issue a variance to a property owner who applies for one on the grounds of possible hardship.

The local governing bodies of some New York municipalities still have not adopted zoning, although the State enabling laws for these purposes have been in effect since the 1920s. In New York, local planning and land use regulations are optional. A 1999 Survey of Local NYS Governments revealed that 58 percent of towns, 58 percent of villages and 84 percent of cities have a written comprehensive plan. The same study showed that 69 percent of towns, 88 percent of villages and 100 percent of cities have zoning.

Many zoning techniques are available to conserve open space. Some examples are:

- *Overlay Zoning*. The overlay zoning technique is a modification of the system of conventionally-mapped zoning districts. An overlay zone applies a common set of standards to a designated area that may cut across several different conventional or underlying zoning districts. When planning to protect open space, a zoning ordinance can be amended to place an overlay zone on an area that is determined to be unsuitable for development. Development in an overlay zoning district can only occur at the density which is authorized by the zoning regulations for the underlying zoning district and without impairing the sensitive environmental features in the area, if that is the stated purpose of the overlay district. In addition to protecting a limited environmentally sensitive area, overlay zoning also can protect larger areas that may encompass several standard zoning districts, in whole or in part. The boundaries of the overlay district do

not have to coincide with the boundaries of the standard underlying zoning districts.

- *Large-lot zoning*. The application of this technique requires lots in a proposed residential subdivision to have a low density. For example, a parcel that is 160 acres in size could have two 80 acre lots or four 40 acre lots. The purpose might be to reduce the number of residential structures and associated activity in or near a sensitive resource area, to help protect it. Thus, large lots can serve to buffer sensitive areas. The disadvantage of this technique, if it is applied too widely in a community, is that large lots can lead to low density rural sprawl, lack of a real community center and loss of community diversity. In some cases, this form of zoning has been ruled to be discriminatory because it eliminates the opportunity for affordable housing.
- *Performance standard zoning*. This technique establishes zones which are based on an allowable environmental impact to the resources of an area as opposed to a specific allowable use. This technique is a good way for a municipality to maintain control over development impacts and to ensure that development will occur only in ways in which the natural resources will not be severely damaged. For example, a community zoning ordinance might require water bodies to be protected with vegetated buffers. Thus, instead of requiring buffer zones depending on the specific use of the land, buffer zones would be established regardless of the use. Rapidly changing technology can create new industries, making it difficult in some areas for a municipality to establish effective zones based on specific uses. In these communities, the performance standard approach may be particularly helpful.
- *Incentive zoning.* Incentive zoning provides for a trading arrangement between a developer and a community. In return for maximizing open space or providing other public amenities, a developer is given a "bonus," such as permission to build at a higher density. The list of what can be offered as an incentive to the developer is listed in the Zoning Ordinance. Town Law 261A provides the legislation for this technique.
- *Special use permits*. A zoning regulation will list "as of right" uses which are allowed in a particular district without the necessity of obtaining any further review. After these uses are listed, a list of conditional uses or "special use permit" uses may be listed, as exceptions. The kinds of uses that require a special permit are those which may be desirable but which could have adverse impacts that require special review and conditioning before being approved. For example, professional buildings might be listed as a special use in residential districts. This would allow a proposal for a professional building to be reviewed to be sure that certain requirements are met, such as adequate parking, landscaping and sign regulation. The advantage of this technique is that it allows for discretionary review of individual proposals. Criteria for approval of a special permit can be tailored specifically to protect open space. For example, special use permit criteria can require development proposals to provide buffer areas and best management practices for control of non-point source pollution adjacent to wetlands. They can also require that a percentage of land be left as open or green space.

Site Plan Approval

A zoning ordinance may require developers to be subject to site plan approval. For communities that do not have a zoning ordinance, site plan approval may be enacted by a separate local law. Site plan approval involves a review of the design for a proposed development on a particular parcel of land. It ensures that the site design meets the established criteria. Site plan approval can be used to ensure that development in a specific area will be in harmony with surrounding existing development. It can require vegetative screening of development or it can address parking requirements, among other things. Site plan approval also can be used to protect scenic vistas.

For example, if a scenic seaside area can be viewed from a highway, the zoning ordinance can require site plan reviews to ensure that proposed developments will not interfere with those views. Site plan approval, unlike subdivision regulations, is not concerned with how new lots are created. Instead, it is concerned with how development occurs on a single lot. It is commonly used to affect the site design for a proposed development, such as a retail

store or a service station, but can only deal with on site open space issues.

Subdivision Regulations

Subdivision regulations govern the manner by which land is divided into smaller parcels. They are primarily used to ensure that adequate services and facilities will accompany development. Subdivision regulations help to ensure the existence of desirable conditions, such as the safety of building locations on a lot, the adequacy of road design and layout, access for emergency vehicles, adequate water supply, a drainage plan and sewage disposal.

The New York State Real Property Law requires that a map, known as a subdivision plat, be filed in the county clerk's office and approved by the local planning board before the sale of any lots that have been created from larger tracts of land can take place. The plat shows the layout of the lots and streets or roads in the subdivision.

Subdivision regulations can include provisions which help to accomplish open space conservation through cluster development, planned unit development, dedication of recreation land or imposition of fees to purchase recreation land, as described below. Subdivision regulations, for example, can explicitly protect open space resources, such as wetlands, steep slopes, floodplains, etc., by requiring that new subdivisions be laid out in a manner that will avoid constrained areas. A municipality's subdivision regulations should exclude areas such as steep slopes and wetlands from density calculations. If these provisions are in the subdivision regulations, then the authority and basis for individual subdivision decisions would be more sound and there would be fewer arbitrary decisions.

Cluster Development

Cluster development is a technique that allows flexibility in the design and subdivision of land. Clustering offers the option to require downsizing some lots or units for residential development to increase open space on the rest of the parcel that is being subdivided. Cities, towns and villages have the authority to enact ordinances or local laws that require cluster development. Clustering can also be applied on a site-specific basis or by overlay districts.

Whether clustering is simply allowed as a right or whether it is a requirement, the planning board also has the option of requiring the developer to calculate the number of lots which normally would be allowed in the affected zoning district by first subtracting the area within the parcel that cannot be developed. As already stated, constrained areas, such as steep slopes and wetlands, should not be included in the density calculation, except under unusual circumstances, thereby giving the developer the right to build those units elsewhere within the parcel.

The common open space left on a parcel of land after clustering development can be managed by a homeowners' association, the local government or a land trust.

Clustering benefits the immediate community by increasing the amount of open space while it benefits the developer and the larger community by decreasing the need for roads and utilities. Although in some municipalities clustering may be mandatory, when given a choice, many developers choose to cluster because it is clear from experience that the marketability of the houses will be enhanced by the increased open space and development expenses are reduced relating to roadways, sewer lines, and other infrastructure and maintenance.

Clustering works well where sewer and water lines are on-site. It may not work as well where septic systems are used and larger lots are needed to obtain an optimum area for in-ground wastewater disposal. However, it could be used to advantage even in these situations if a "community" septic system is installed.

Planned Unit Development (PUD)

Planned unit development (PUD) is a technique that is similar to cluster development with the exception that PUD not only provides for flexibility in the planning and development of an entire tract of land, but also allows planning for mixed uses (usually commercial and residential), if desired. Some PUDs also may be a mixture of commercial or industrial uses and open space. An application for a PUD district is typically reviewed by the planning board, and a recommendation is made to the legislative body.

Recreation Land Dedication or, Alternatively, Recreation Fees

Subdivision regulations can require developers to set aside a certain percentage of their land for recreation or parkland purposes or, alternatively, to put an equivalent amount of money into a trust fund for the acquisition or improvement of recreational or parkland. The exact percentage can be determined by the planning board and the amount of money may

be determined on a per lot, per acre or other reasonable basis. In some communities, these contributions exceed several thousand dollars per lot.

The planning board also may determine whether or not the land that is being subdivided is suitable for recreational or parkland and whether or not there will be a need for recreational or parkland on that plat. If it is determined that there is no land suitable on the plat, then the developer can be required to pay the established fee. The developer also may be given the option of reserving a separate parcel of land for recreational or park purposes in another part of the community, as an alternative to setting aside land for these uses in the proposed development.

By requiring planning boards to make a finding as to whether or not each plat should have parklands on it, subdivision regulations can require planning boards to examine and plan for the park and recreational needs of their communities. Having an adopted plan which addresses recreational open space resources simplifies the analysis that the planning board is required to undertake for each residential subdivision.

Transfer of Development Rights

A transfer of development rights (TDR) program basically establishes a market for development rights. Transferring development rights allows all or part of the development density that is allowed by the zoning ordinance for a particular parcel of land which is to be retained as open space, to be transferred to other parcels which can support increased density. Even though the owner of the open land parcel sells some or all of the development rights to the owner of the parcel on which the density is to be increased, the owner of the open space parcel still retains the fee title interest and all other rights to the open space property. These rights include the ability to use the land for non-intensive uses such as conservation, recreation, farming or forestry. However, once a development right has been sold, a development restriction is recorded on the deed, thereby creating a permanent conservation easement on the land.

TDR has been a difficult concept to implement because it requires a very specific set of circumstances for success. Sometimes there are problems in setting up a bank to facilitate buying or selling density credits. The area that is set aside to receive the extra density must be able to accommodate more units. In addition, if the area that is receiving the extra density credits can obtain increased density through another means, such as zoning variances, TDRs will be less attractive. The concept of TDR seems to work best on a regional or intermunicipal scale.

State Environmental Quality Review Act (SEQRA) - Critical Area Designation

The purpose of SEQRA is to incorporate the consideration of environmental factors into the existing planning, review and decision making processes of government agencies at the earliest possible time. The SEQRA process is designed to develop information about how a proposed project would affect the environment, in order to help state and local agencies to make better environmental decisions. The open space implications of SEQRA are that it helps ensure that many environmentally sensitive areas and significant open space resources will be considered when a proposed project is reviewed. As a result of focusing on resources in this way, they may be protected by governmental or private initiative.

Another opportunity, available under SEQRA 617.14 (g), for the protection of open space is the designation of a critical environmental area (CEA). A CEA is a specific geographic area within the community that contains sensitive or unique features that require protection. To be designated as a CEA, an area must have one or more of the following characteristics:

- It can be a benefit or threat to human health;
- It can be a natural setting such as open space or areas of aesthetic or scenic quality;
- It can have agricultural, social, cultural, historic, archaeological, recreational or educational values;
- It can have an inherent ecological, geological or hydrological sensitivity to change that may be adversely affected by any change.

To designate a CEA, a local agency or governing body must give written public notice and hold a public hearing. A map of the boundaries of the CEA, a written justification supporting the designation and proof of the public hearing are filed with the DEC in Albany, the regional office of DEC and any other agency that is regularly involved in approving, undertaking or funding actions in the municipality.

The designation has the effect of requiring, under SEQR, that the potential impact of a Type 1 or Unlisted action on the CEA be a “relevant area of environmental concern and must be evaluated in the determination of significance.” Under the old regu-

lations, designation of a CEA converted any action within the CEA to a Type 1 action, which is no longer the case.

Taxation Policy

Agricultural Districts

The Agricultural Districts Law provides protection for farmland and farm businesses through several measures, including the formation of agricultural districts, notice of intent requirements (see below), agricultural assessments, right-to-farm provisions to protect against nuisance complaints and the enactment or administration by local governments of laws or regulations which unreasonably restrict or regulate farm operations, among other things.

The Agricultural District Law establishes the authority for the Department of Agriculture and Markets to create agricultural districts comprised of farmland of 500 acres or more. A district is established by county legislative action which is initiated by a petition from the owners of the land. This is followed by certification by the Department of Agriculture and Markets in consultation with DEC and the Advisory Council on Agriculture. While there were 19 agricultural districts in 1972, that number has grown to 341 in 2002. The number of districts has declined in recent years due to consolidation, but the number of acres in districts continues to rise modestly.

In 1992, the Agricultural Districts Law was amended to authorize the establishment of county agricultural and farmland protection boards. These boards can be created by county legislative bodies. They are charged with advising the county legislative body about agricultural districts. They also develop and approve county agricultural and farmland protection plans.

The State agricultural and farmland protection program authorizes the Department of Agriculture and Markets to provide technical assistance to county agricultural and farmland protection boards. Under this program, the Department of Agriculture and Markets can develop guidelines for the creation of agricultural and farmland protection plans and administer planning grants and a farmland protection fund, as discussed in the funding section of Chapter 4 under the Environmental Protection Fund.

Another section of the Agricultural Districts Law, commonly known as, "notice of intent," requires an agency, public benefit corporation or government which is proposing a development project on farmland to file notice with the Department of Agriculture and Markets and the county agricultural and farmland protection board. A final notice includes a detailed agricultural impact statement.

Forest Tax Law

The Forest Tax Law encourages ownership of woodlands for the production of forest crops so as to achieve a more stable forest economy. As early as 1912, there were provisions for tax concessions on forest lands. Various laws and amendments were passed over the years, culminating in the present law, Section 480-a of the Real Property Tax Law, which has been in effect since 1974. This law allows forest owners to apply for up to an 80% tax exemption by committing their forest land to a DEC-approved forest management plan. Tax savings may vary considerably for different properties. The forested parcel must be at least fifty acres in size and it must be managed for the production of forest crops for ten years. This commitment is made annually and is for the next ten years beginning each year that the landowner receives a tax exemption. The management plan must include a description of the forest, a detailed map and a work schedule which the owner agrees to follow. The qualifying tract of land must be managed primarily for forest crops, but other compatible uses such as recreation can also be included. If the land is sold for development while the plan is still in effect, a tax rollback penalty is levied. Forest owners can get more information by contacting DEC at: Private Forestry Assistance Section, Bureau of Private Land Services, 625 Broadway, Albany, NY 12233 - (518) 402-9425, DEC web site: *www.dec.state.ny.us.*

Assessments

Property tax assessment is usually based upon a property's market value, which reflects the property's development potential. If a conservation easement or some other type of development restrictions reduce the development potential of the property, it may reduce the level of assessment and the amount of the owner's property taxes. Thus tax incentives may encourage people to preserve open space.

It is possible to provide tax incentives by reduced assessments based upon the existence of protected wetlands on a property. For instance, the Freshwater Wetlands Act, Article 24 of the Environmental Conservation Law protects and conserves freshwater wetlands that are 12.4 acres or larger. Smaller wetlands connected to larger watershed systems are protected by the federal government.

Land Acquisition

The General Municipal Law (GML) establishes open land preservation as a public purpose. Section 247 of the GML authorizes local governments to expend public funds to acquire interests or rights in real property to preserve open space. This section also provides that after acquisition, the valuation of the open space areas for real estate taxation purposes will take into account and be limited by the restriction on the future use of the parcel.

There are two types of land acquisition techniques: fee simple acquisition and acquisition of partial interests or rights by easement. In examining these techniques, it is useful to think of real property as a bundle of rights. A landowner may own all of the rights in the bundle or only some of them.

Fee Simple

Fee simple acquisition is the purchase of the fee title interest in a parcel of land. However, a purchaser can acquire a fee title interest in the property except for any rights in the property that already may have been transferred to some other third party. For example, a utility company might own an easement for a power line or, in the case of river area, a utility company may own flowage rights for hydro power development. Several different types of fee title acquisition include:

- Land can be purchased at its fair market value.
- Real property can be sold below the market value to a conservation organization or a municipality. This is referred to as a "bargain sale." The difference between the market value and the reduced price may qualify as a charitable deduction from income taxes.
- An installment sale involves the sale of real property over a period of years. This allows the seller of the land to defer, and possibly reduce, the tax burden by spreading out the income from the sale.
- Land can be sold with an option that allows the seller to continue to use the property during his or her lifetime. This allows the landowner to receive the income now and then have the land transferred when he or she dies.

In general, land which has environmental problems, such as contamination from toxic or hazardous waste, including oil spills, should not be purchased by local governments until the site has been cleaned up and until DEC or the U.S. Environmental Protection Agency has indicated that it is safe to use. An environmental audit should be arranged for by the owner to assess the extent of the liability. This usually would be performed by an engineering consultant.

Preserving open space through fee title acquisition allows a high degree of protection for the purchased land. The limitation is that purchasing all of the rights and interests in a parcel may be expensive when all of the costs are calculated. In addition to obtaining funds for purchasing the land, funds for its management and maintenance on a continuing basis also must be provided.

Purchase of Development Rights

The purchase of development rights (PDR) can be used to prevent changes in land use from farming to non-farming practices. These rights to the land are voluntarily offered for sale by the owner, who retains all other rights of ownership and a conservation easement is placed on the land and recorded on the title. The buyer, usually a local unit of government, pays the landowner the difference between the value of the land as restricted and the value of the land for its "highest and best use," which is generally residential or commercial development.

The development value is usually a high percentage of the overall value. Preserving farmland for permanent agricultural use is the major benefit of this program. Also, the parcel stays on the tax rolls and therefore continues to contribute to the tax base, but the reduction in market value may reduce property taxes and help prevent them from rising.

PDR gives a community a way to share in the costs of protecting farmland with landowners. Nonfarmers have a stake in the future of agriculture for a variety of important reasons, including keeping locally grown food available and maintaining scenic and historic landscapes, open space, watershed and wildlife habitat.

Financing Local Open Space Planning and Implementation

Funding sources for a local open space plan vary depending on the type of organization that is preparing the plan. Local government agencies and ad hoc open space committees appointed by local governing bodies can obtain appropriations from the governing body to prepare and publish the plan. Some funds for local open space planning are avail-

Local Open Space Agricultural Partnership

In October of 1998, the Town of Red Hook and Villages of Red Hook and Tivoli in Dutchess County initiated a project to prepare a comprehensive Open Space Plan for the three communities. The planning process began in 1999 with informational workshops and residential surveys to better understand citizen perception of open space preservation.

The survey showed that residents were overwhelmingly in favor of aggressive protection of their rural community character by local officials. Completed in November of 2000, by the Open Space Subcommittee of the Town of Red Hook Greenway Committee, with the assistance of Behan Planning Associates, the plan identified, catalogued, and categorized open space areas within the three communities. The plan recommends initiatives and techniques the three municipalities can use to preserve their rural character. They include the institution of an Agricultural Advisory Council, establishment of a purchase of development rights program, utilization of conservation easements, zoning overlay districts, cluster development, and incentive zoning. The plan recommended that the communities protect between 8,000 and 13,000 acres of the existing 19,000 acres of undeveloped and productive agricultural land.

able from public and private sources. If one grant does not provide fully for project needs, it can be used to leverage other grants.

Several State, federal and private sources of funding are available to help carry out the recommendations of a local open space plan. In addition to the programs and sources listed below, information about grants can be obtained from the Quality Communities Clearinghouse website, www.dos.state.ny.us/qc, and the *Grants Action Newsletter*, published by the New York State Assembly. This newsletter describes grants that are available for a wide array of projects. Another source of information is the *Catalog of State and Federal Programs Aiding New York's Local Government*, prepared by and available from the New York State Legislative Commission on State-Local Relations. The catalog provides information about the flow of aid dollars to local governments from the federal and state governments, as well as detailing specific grants and programs that are available. Finally, the *Foundation Directory* and *The Foundation Grants Index*, which are publications of the Foundation Center, provide information about private grants. This directory and index are available at libraries. The National Park Service has compiled a list of foundations from these directories that have recently supported open space conservation projects.

Local Programs

Dedicated Revenue Sources

A permanent or time-limited revenue stream derived from existing or new taxes or fees can be used to acquire open land. A dedicated fund may be used as the basis for bonding with the future revenues being used to pay off the interest and principle on the bond. This technique allows counties and municipalities to bring money from the future into the present to acquire lands before the price increases dramatically or the parcels are lost to development.

Several examples exist in New York State at the county or municipal level:

Suffolk County

- In 1986, Suffolk County residents approved a Drinking Water Protection program, worth over $300 million, funded by a ¼% increase to the county sales tax. In 1987, this program was modified by Suffolk County voters to allow bonding against the future revenues of the fund, and in 1996 modified again by voters to prohibit legislative transfers of funds above 8% per annum from the revenue source into the county general fund.
- In 1999, Suffolk County voters approved a revised Drinking Water Protection program, still funded by a ¼% increase in the county sales tax, for a 12-year period. This billion dollar program provides about $273 million for conservation purposes, including open land purchases, purchase of farmland development rights, and implementation funds for recommendations from the Long Island Sound Study, the South Shore Estuary Reserve study and the Peconic Estuary study. The county has leveraged this dedicated fund for $62 million through a low cost financing arrangement, similar to bonding, pro-

vided by the New York State Revolving Fund for Clear Water and Air, and administered by the Environmental Facilities Corporation.

- 1n 1998, Southampton, East Hampton, Shelter Island, Southold and Riverhead town residents, in five separate town referenda, voted to establish a 2% buyers real estate transfer tax, authorized by the NYS Legislature the previous summer. This transfer tax (known locally as the Community Preservation Fund or CPF) and scheduled to sunset after 12 years, would generate about $300 million for open space, critical wildlife habitat and farmland protection during its lifetime. In 2002, these same towns voted to extend the CPF until 2020, a move that will generate an additional $300 million dollars for the region's conservation needs. The CPF revenue streams in Southampton (for $30 million) and East Hampton (for $20 million) have been leveraged through a low cost financing arrangement, similar to bonding, provided by the New York State Revolving Fund for Clear Water and Air, and administered by the Environmental Facilities Corporation. Riverhead town has authorized $30 million in general obligation bonds against its future CPF revenues.
- In 1996, Southampton voters approved an increase in property tax at 20 cents per $100 real property assessment to create a dedicated fund for environmental conservation projects, principally land and development rights purchases. This tax generates about $1 million a year for the town for this purpose and is restricted by the enabling legislation. The program does not sunset.

Local Bond Acts

Local general revenue bonds can be issued for the purpose of obtaining funds to acquire open space resources. The local governing body may approve the bond measure itself, subject to permissive referendum, or place the measure on the ballot for direct approval or rejection by the local electorate. The local governing body must specify the maximum amount to be raised and the number of years for repayment.

Saratoga County

- In November, 2002, a $5 million conservation bond act was approved by Saratoga Springs residents.

Suffolk County

- In 2002, voters from the Long Island Towns of Brookhaven, East Hampton, Riverhead, Shelter Island, Southampton and Southhold passed measures which extended a two percent tax on real estate transactions to protect open space. A total of approximately $360 million will be raised for open space protection from this source.
- In 1997, Suffolk County residents voted to approve a $62 million Community Greenways Bond Act. Funds were divided four ways: $20 million for open space purchase, $20 million for active recreation, $20 million for the purchase of farmland development rights and $2 million to fund the development of an environmental education center on a suitable county-owned site.
- Southampton - Residents voted to approve an $8 million conservation bond act in 1987. In 1996, voters approved another $5 million conservation bond act.
- East Hampton - In 1996, town voters approved a $5 million conservation bond act.
- Shelter Island - In 1996, town voters approved a $600,000 conservation bond act.
- Southold - In 1983, 1987, 1991 and 1994 town residents approved $1.75 million bond acts for open space and farmland development right purchases. In 1996, 1997, 1998, 1999, and 2001 town voters approved $2 million farmland and open space protection bond acts. In this 20 year period, Southold residents have approved $17 million for open space and farmland protection.
- Riverhead - In 1996, subject to permissive referendum the Riverhead town board approved a $4 million open space and farmland protection bond act.
- Brookhaven - In 1999, Brookhaven town residents approved their first open space bond act, $10 million for the protection of farmland and open space. In 2002, town residents approved a $20 million bond act for the same purposes.
- Huntington - In 1997, voters approved a $10 million bond act for open space preservation.

Nassau County

- Oyster Bay Town - In 1999, voters approved a $20 million bond act for open space and drinking water protection.

Erie County

- Clarence Town - Voters passed a $12.5 million bond act to purchase farmland development rights and open space in November 2002.
- Amherst Town - Has established a bonded fund for PDR purchases. Set aside in a capital program about $900,000 for PDR's.
- Marilla Town - Set aside $100,000 to $300,000 for PDR funds to match Federal and State Programs.

Monroe County

- Monroe County received $2 million from the NY State portion of the Tobacco Law Suit settlement. County officials determined that these funds should be used to protect open space and the money went into 1:1 open space conservation matching grants to towns and qualifying not for profits in the county, working on open space protection.
- Penfield Town - Residents passed an Open Space Bond for $10 million on April 23rd, 2002.
- Pittsford Town - Town council passed a bond measure, subject to permissive referendum, for $9.9 million available only for purchase of farmland PDR's, in 1998.
- Macedon Town - Town council passed a farmland preservation bond, subject to permissive referendum.

Rockland County

- Town of Orangetown residents voted in November 2002, to approve a special open space bond for $6.95 million to purchase a specific 348 acre tract of land.

Westchester County

- Bedford Town - Residents approved a property tax increase of 58 cents a year per $1000 of assessed value, to raise about $3 million for open space preservation, November 2000.
- Irvington Village - Residents approved a $3 million bond issue for open space preservation, November 2000.
- Lewisboro Town - Residents approved a $2 million bond issue for open space preservation, November, 2000.
- North Salem Town - Residents approved a $2 million bond issue for open space preservation, November 2000.
- Pound Ridge Town - Residents approved a property tax increase of $1 per $1000 of assessed valuation, will raise $3 million for open space preservation; November 2000.
- Somers Town - Residents approved a $2 million bond issue for open space preservation, November 2000.
- Yorktown Town - Residents approved a $30 a year per tax lot for open space preservation in November, 2000. This measure required creation of a special taxing district, which itself required enabling legislation from the NYS legislature, which has not voted to allow it. Yorktown still has no effective local open space funding.
- Tarrytown Village residents approved a $3 million bond issue for open space preservation in March 2001.
- Dobbs Ferry Village residents approved a $3 million bond issue for open space preservation in November 2001.
- Ardsley Village residents approved a $1.5 million bond issue for open space preservation in November 2001.
- New Castle Town residents approved a $2 million bond issue for open space preservation in November 2002.

County and Local Capital Funding for Open Space and Farm Land Preservation:

Suffolk County

- For nearly 20 years, Suffolk County has committed $12 to $15 million a year in its annual capital budget to acquire open space and farmland development rights, in addition to all its other revenue sources for open space and farm land protection.

Westchester County

- Starting with its 2001 budget, the Cortlandt Town Board decided to put 10 percent of its annual budget surplus in an open space fund.
- Starting in 1998, Westchester County Executive Andrew Spano put $5 million a year for

five years in the county's capital budget. In the spring of 2001, he modified that, announcing instead that he would put $10 million a year for five years.

- In January 2001, the White Plains City mayor and Common Council created a $5.5 million dedicated open space fund through their capital budget process.

State Programs

Environmental Protection Fund (EPF)

In 1993, the Legislature enacted the Environmental Protection Act. The Act created for the first time in the state's history a permanently dedicated Environmental Protection Fund (EPF) to meet many of the state's pressing environmental needs, including: the acquisition of priority open space projects listed in the State Open Space Conservation Plan; work on the identification, research and conservation of the state's biological diversity; the municipal parks and historic preservation grant program administered by OPRHP; local farmland protection projects administered by the Department of Agriculture and Markets; local waterfront revitalization projects administered by the Department of State, and more recently, stewardship funding for DEC and OPRHP's land and facility holdings and implementation of the Hudson River Estuary Action Plan.

The EPF has grown substantially, from $31.5 million in appropriations in 1994, to its current annual funding level of $250 million.

The acquisition of open space conservation projects is provided for in Title 3 of Article 54 of the Environmental Conservation Law. Conservation of priority open spaces by either DEC or OPRHP is authorized by this law. Title 9 of Article 54 authorizes OPRHP to administer a matching grants program for municipal parks, recreation and historic preservation projects.

Revenues to support the Environmental Protection Fund include proceeds resulting from a portion of the existing real estate transfer tax, refinancing of state and public authority obligations, sale of surplus State lands as authorized by State law, sale or lease of State owned underwater lands and revenues from a conservation license plate program dedicated to open space conservation land projects.

Clean Water/Clean Air Bond Act

The Clean Water/Clean Air Bond Act, passed by referendum in November of 1996, provided significant resources for several open space programs, which have now been fully committed and no longer available for new projects.

Clean Water State Revolving Fund (CWSRF)

In 2002, the Clean Water State Revolving Fund (CWSRF) was expanded to provide not-for-profit organizations a mechanism to fund land acquisition projects that protect and enhance water quality and preserve open space. The CWSRF's low interest rate financing, which can save a substantial amount on project costs, has previously only been available to municipalities.

The CWSRF has been successfully used by municipalities on both Long Island and in Westchester County for land acquisition protects that protect and enhance water quality. For example, the City of Rye in Westchester County used a $3.1 million SRF short-term, zero-interest loan to acquire and protect crucial land in the Long Island Sound Estuary. This land acquisition, recommended in the Comprehensive Conservation and Management Plan for the Long Island Sound, will protect water quality and preserve and improve the waterfront, tributaries and wetlands within the city.

The CWSRF, administered by the State Environmental Facilities Corporation (EFC) and DEC, was created in 1987 through an amendment to the federal Clean Water Act. The amendment enabled states to establish loan funds to finance water quality improvement projects, including traditional wastewater treatment facilities, programs that reduce non-point sources of pollution such as land acquisition, and projects identified in Comprehensive Conservation and Management Plans approved by the U.S. Environmental Protection Agency. In New York, these include the Long Island Sound, NY/NJ Harbor and Peconic Bay Estuaries.

In May, 2003, the Open Space Institute, a non-profit conservation organization, reached an agreement to acquire the 10,000-acre Tahawus property, strategically located on the southern gateway to the High peaks region of the Adirondack Park. The property also contains the headwaters of the Hudson River as well as many other water bodies. Under the innovative arrangement, OSI will borrow funds from the CWSRF to purchase the property, and work closely with the State to transfer portions of the property to the State Forest Preserve, while the remaining portions will be protected by a working forest conservation easement. This is the first instance of a non-profit conservation organization in New York using the CWSRF to finance the acquisition of land which protects water quality.

Increased use of the SRF by local governments and qualified land trusts and conservation organizations can provide a significant new source of funding for the protection of locally important open space resources that improve water quality.

Gifts and Donations

Gifts and donations are an important way for individuals and businesses to contribute directly to the conservation of open space. Gifts and donations of land, in fee or easement, can be made to qualified not-for-profit organizations and local, state and federal governments. Gifts of funds for acquisition of lands can also be made, and can be targeted to specific acquisition proposals. Some private foundations have been particularly active and important in land conservation in New York State. Foundation funding may continue to be an important source of conservation funds in the future.

The Natural Heritage Trust is a public benefit corporation of the State of New York that can accept private sector gifts and funds for the preservation, protection, and enhancement of the natural and historic resources for parks, recreation and historic preservation purposes. This provides an opportunity for OPRHP and DEC to promote public/private cooperation.

Federal Programs

Land and Water Conservation Fund (LWCF)

Since 1965, New York's bond act funds for acquisition of land and development of outdoor recreation facilities have been coupled with monies allocated to the states by the U.S. Department of the Interior from the Land and Water Conservation Fund (LWCF) for land acquisition and development for outdoor recreation. During the 1960's and 1970's, the LWCF helped stretch state dollars for acquisition and development of outdoor recreation land. Since 1965, New York State has received more than $201 million from this fund.

Under the provisions for the administration of the LWCF, the state or municipality must provide a 50/50 match against the federal funds. States also have the option of passing the federal funds through to local governments on a matching basis. In this way, the federal program provides an incentive to the states and their local governments to establish a source of funds with which to match the federal dollars. Thus, the combination of LWCF monies and state and local monies has totaled more than $6 billion nationally since 1965. Further, the state is required to develop and maintain a State Comprehensive Outdoor Recreation Plan (SCORP). This policy and assessment document and this Open Space Plan provides the guidance for the allocation of LWCF monies.

Revenues from federal offshore oil and gas leasing, up to a maximum of $900 million are credited to the LWCF account. From a high point in 1979, when the states received $370 million and New York received $23.6 million, allocations to the states were eliminated in federal fiscal year 1996 through 1999. Demand, however, has not decreased, as evidenced by the requests for park acquisition and development under the EPF.

Pittman-Robertson Program

The federal Aid in Wildlife Restoration Act, commonly known as the Pittman-Robertson program, was signed into law in 1937. It is funded by an 11% excise tax on rifles, shotguns and archery equipment and a 10 percent excise tax on handguns. This money is apportioned to the states and is earmarked for wildlife conservation and hunter education. NewYork's share of about $3.6 million annually is currently committed to: habitat protection, sportsmen education and wildlife management.

Rivers, Trails and Conservation Assistance Program

The National Park Service administers the Rivers, Trails and Conservation Assistance Program that helps citizens and communities develop and implement local Greenway and Trail projects. For example, in New York State the program helped with the creation of both the Genesee Valley Greenway and the Hudson River Greenway.

Sport Fish Restoration Program

The federal Sport Fish and Restoration Act, commonly known as the Dingell-Johnson Program amended by the Wallop-Breaux Act, provides for the collection of excise taxes on fishing tackle, imported yachts and motor boat fuels. Funds are returned to the states by the U.S. Fish and Wildlife Service for use in fisheries management and research programs. New York receives about $4.9 million annually which currently is committed to the following projects: development and management of New York's freshwater and marine fisheries resources, habitat protection, boating access, and Lake Champlain. The money generally supports staff, non-personal service costs and design and maintenance for boating access facilities.

Transportation Efficiency Act (TEA-21)

TEA-21 provides for about $500 million to be allocated from the Highway Trust Fund for enhancements such as acquisition, rehabilitation and operation of historic transportation facilities, of scenic easements, conversion of abandoned railways to trails, bicycle and pedestrian facilities, removal of outdoor advertising, archaeological planning, and scenic byways. New York State received $110 million over a 5-year period from the transportation enhancements component and other funds for the CMAQ component. In addition, New York State has been awarded $1.8 in Scenic Byway Grants and $4.4 million for the Recreational Trails Program component.

Farm Security and Rural Investment Act

Several sections of the Farm Security and Rural Investment Act, signed in May 2002, provide funding beneficial to New York State's open space program. Below are examples of such federal programs:

Wetland Reserve Programs. The Wetlands Reserve Program (WRP) was added to the Farm Bill in 1990 and also reauthorized under the 1995 and 2002 farm bills. The WRP provides financial incentives for restoration and protection of up to 2.275 million acres of wetlands. The 2002 reauthorization increased the acreage cap from one million to 2.275 million acres. Technical assistance is also provided to help develop restoration and management plans. There are three contract options available to landowners: permanent easement, 30 year easement, or restoration agreement. For permanent easements, 100% of all eligible costs and the appraised agricultural value of the land is paid. For 30 year easements, 50-75% of eligible costs and the appraised land value is paid. On restoration agreement, no easement is purchased, but 75% of restoration costs are paid by the Natural Resource Conservation Service (NRCS) and the landowner agrees to maintain compatible practices for 15 years.

Forest Legacy Program. The Forest Legacy Program was established in federal law in the forestry title of the 1990 Farm Bill. It is designed to identify and protect environmentally sensitive forests that are threatened with conversion to non-forest uses. The law authorizes the Forest Service, through the Secretary of Agriculture, to acquire land and conservation easements from willing sellers, in cooperation with participating states. Under the state grant option, New York is using Forest Legacy funds to enhance the state's Working Forest program and conserve important forest resources. Projects that have been undertaken using Legacy funds include the Taconic Ridge, Sterling Forest, the New York City Watershed in the Catskills and projects in the Tug Hill and Adirondack Park. There is strong emphasis in the program on the purchase of conservation easements from willing sellers. To the extent feasible, the federal share does not exceed 75% and states and other participating entities provide the remaining 25%, according to Forest Service guidelines.

Eligible forest lands include those with one or more resource values, such as scenic, recreational, cultural and ecological values, as well as riparian areas, fish and wildlife habitats and threatened and endangered species. Potentially eligible lands also should provide opportunities for traditional forest uses, such as timber management and forest-based recreation. The existence of an imminent threat of conversion would be a primary consideration for eligibility and the land should possess strong environmental values.

All such easements acquired will meet the conservation objectives and goals contained in the State Open Space Plan, will limit subdivision of the encumbered lands, will provide for permanent forest cover subject to sustainable harvesting of timber and timber products using practices consistent with state laws and regulations, will prohibit all residential, significant surface disturbing mining and drilling, commercial and industrial uses except for silvicultural activities and associated natural resource management activities.

In 2002, the existing Hudson Highlands Legacy area was expanded to encompass a large geographic area ranging from the New York/New Jersey/Pennsylvania border, across the Hudson River to the Connecticut border where it now links with the expanded Taconic Ridge Forestry Legacy area. Other approved Legacy areas in New York incude the Northern Forest (Tug Hill and Adirondack region), Taconic Ridge, Delaware Catskill Watershed and Long Island Pine Barrens.

Farmland Protection Program. Section 388 of the Federal Agricultural Improvement and Reform Act of 1996 established the Farmland Protection Program (FPP). The Commodity Credit Corporation (CCC) administers the program un-

der the USDA Natural Resources Conservation Service. The program provides cost-share assistance to states, tribes, and units of local government for the acquisition of conservation easements or other interests in prime, unique, or other productive soil for the purpose of limiting non-agricultural uses on that land.

Since 1996, the program has provided $53.4 million nationwide to protect 108,000 acres. In the 2002 Farm Security and Rural Investment Act, the new funding is a nearly 20-fold increase over the amount committed to this program since the last farm bill. The federal program will be undertaken in New York State in conjunction with the State Farmland Protection Program.

Forest Stewardship Program. The Forest Stewardship Program (FSP) helps nearly 500,000 non-industrial private forestland (NIFP) owners who own 85% of the New York's forestland better manage and use their forest resources. Under FSP, every state has developed and is implementing a comprehensive management program to ensure that private forest lands are managed under professional developed forest stewardship plans. A companion program, the Forest Land Enhancement Program, authorized by the 2002 federal Farm Security and Rural Investment Act will provide an opportunity for owners to obtain financial and technical assistance to implement projects recommended in Stewardship plans. Conservation districts recommend extending FSP and increasing its funding authorization to $50 million annually.

Forest Land Enhancement Program. The U.S. derives tremendous benefits from nonindustrial private forest (NIPF). NIPF lands include all private forest ownerships above one acre that do not contain a wood processing facility. Given that the management of these forests has a tremendous influence on the quality of our nation's water, watersheds, air, wildlife and timber resources, the owners of these lands must be provided the resources they need to assure proper management.

A recent survey of landowners with Forest Stewardship Plans indicates that landowners with such plans are almost three times more likely to implement their plans if they receive financial and/or technical assistance than if they don't.

The 2002 Farm Security and Rural Investment Act directs the Secretaryof Agriculture to establish a Forest Land Enhancement Program for the purposes of providing financial assistance to state foresters, and encouraging the long-term sustainability of non-industrial private forest land in the U.S. by assisting owners in actively managing land and related resources through the use of state, federal and private sector resource management expertise, financial assistance and educational programs.

Conservation Security Program CSP). The 2002 Federal Farm Bill establishes this new program for fiscal years 2003 through 2007 to reward stewardship and provide an incentive for addressing additional resource concerns on agricultural working lands.

Urban and Community Forestry Program. The Urban and Community Forestry Program (UCFP) provides the leadership, in cooperation with states, for improving and expanding urban forest ecosystems in the nation's 45,000 towns and cities where 80% of the population of our country resides. The program provides leadership for state of the art technology and grants to urban areas to improve their quality of life through tree planting, maintenance and urban tree protection actions.

The Conservation Reserve Program (CRP). Provides technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner. The program provides assistance to farmers and ranchers in complying with Federal, State, and tribal environmental laws, and encourages environmental enhancement.

The Conservation Reserve Program reduces soil erosion, protects the Nation's ability to produce food and fiber, reduces sedimentation in streams and lakes, improves water quality, establishes wildlife habitat, and enhances forest and wetland resources. It encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as tame or native grasses, wildlife plantings, trees, filterstrips, or riparian buffers.

The 2002 Federal Farm Security and Rural Investment Act funds the Conservation Reserve Program at $1.517 billion and reauthorizes the program through 2007. The acreage cap for this program has been increased from 36.4 million to 39.2 million acres. The reauthorization retains

program priority areas and expands wetlands pilot projects to one million acres with all states eligible.

Environmental Quality Incentives Program (EQIP). The Environmental Quality Incentives Program (EQIP) was established in the 1996 Farm Bill to provide a voluntary conservation program for farmers and ranchers who face serious threats to soil, water, and related natural resources. In the 2002 Federal Farm Security and Rural Investment Act reauthorization, EQUIP has been funded at $9 million.

Wildlife Habitat Incentives Program (WHIP). The Wildlife Habitat Incentives Program (WHIP) is a voluntary program that encourages creation of high quality wildlife habitats that support wildlife populations of national, state, tribal and local significance. Through WHIP, the Natural Resources Conservation Service (NRCS) provides technical and financial assistance to landowners to create upland, wetland, riparian and aquatic habitat areas on their property. Since 1996, approximately $62.5 million have been spent through this program to provide cost-share payments on 1.6 million acres. The reauthorization of the Federal Farm Security and Rural Investment Act provides $700 million for this program, which is greater than a 10-fold increase over the amount committed to this program since the last farm bill.

National Flood Insurance Program (NFIP). NFIP enables property owners to purchase affordable flood insurance. The program is administered by the Federal Emergency Management Agency (FEMA). The program works by identifying communities that are likely to have floods; in New York State, all but a few communities are in this category. FEMA identifies flood hazard areas and then offers the local government the opportunity to participate in the program. If the community decides not to participate, no federal disaster assistance will be available. If the community participates in the program, it must agree to adopt and enforce floodplain management measures to reduce the risk of flood damage in return for having affordable flood insurance available for purchase by people in the community. The floodplain regulations provide protection from flooding by requiring new structures to be elevated above damaging flood levels or to be structurally flood proofed. Areas which are likely to be affected by floods are good candidates for open space protection and should be considered in an open space plan. DEC has the authority to provide technical assistance to municipalities that want to qualify for the NFIP. This assistance may involve the preparation of a floodplain management plan, regulations or stormwater management. Identifying floodways and floodplains where development cannot occur without expensive floodproofing of new structures, may help to preserve these areas in open space. In turn, this will help to retain floodwaters in the floodplain rather than pass them downstream at increased velocity and with increased potential to do damage, as so often occurs when floodplains are intensively developed. Creative stormwater management can serve multiple objectives including erosion and sediment control, water quality management, flood control, open space preservation and visual enhancement. For example, a system of stormwater retention ponds in a new development can be aesthetically pleasing and can serve as a stormwater management system.

The NFIP is useful for open space planners because it can help identify floodplain areas that need protection. Good resource protection is always a superior alternative to insurance and ideally, protection and insurance should be used together.

Coastal and Estuarine Land Conservation Program (CELCP). This federal program, authorized in 2002, is administered by the National Oceanic and Atmospheric Administration (NOAA). This grant program provides funds for projects that protect important coastal and estuarine areas based on the completion of state coastal and estuarine land conservation plans. NOAA will work closely with coastal states and territories to effectively implement this program.

Resources:

Metropolitan Conservation Alliance. 2002. *Conservation Area Overlay District, A Model Local Law. Technical Paper Series, No. 3*. Bronx, New York. 46pp.

For more information on how to use stormwater management facilities to enhance development projects and preserve open space, see the DEC handbook, *Reducing the Impacts of Stormwater Runoff*

from New Development. Another useful stormwater management assistance tool is the *NYS Stormwater Management Design Manual.*

Nolon, John R., Land Use Law Center, Pace University School of Law, *Preserving Natural Resources Through Local Environmental Laws: A Guidebook for Local Governments*.

Private Programs

Private Sector Donations

Many land trusts work with private landowners to protect land, often using funds raised from private donations to accomplish local conservation objectives. Community foundations and other philanthropic organizations are also sources of private funding for local open space conservation projects. Donations from the private sector can play a large role in open space planning activities. In addition to soliciting funds, an open space planning group can obtain materials from companies that can be used for trails or other conservation projects. For example, a local lumber store or forest owner could donate wood for a foot bridge. A company that makes signs may donate the design expertise and materials for a trailhead sign. A publishing or printing company might print copies of the final local open space plan. Utility companies may be willing to donate wood chips for trails.

CONTACT LIST

FEDERAL AGENCIES

US Department of the Interior
Bureau of Land Management
1849 C Street, NW, LS-406
Washington, DC 20240
(202) 208-3801
www.blm.gov

US Department of the Interior
US Fish and Wildlife Service
Northeast Regional Office 5
300 Westgate Center Drive
Hadley, MA 01035
(413) 253-8200
www.fws.gov

US Department of the Interior
NY Ecological Services
Field Station
3817 Luker Road
Cortland, NY 13045
(607) 753-9334
www.r5es_nyfo@.fws.gov

US Department of the Interior
US Geological Survey
12201 Sunrise Valley Drive
National Center
Reston, VA 20192
(703) 648-4000
www.usgs.gov

US Department of the Interior
Geological Survey
Albany District Office
Leo W O'Brien Federal Building
Albany, NY 12207
(518) 431-4341
www.usgs.gov

National Park Service
Rivers & Trails Program
4097 Albany Post Road
Hyde Park, NY 12538
(845) 229-9115
www.ncrc.nps.gov

National Park Service
Boston Support Office
15 State Street
Boston, MA 02109-3572
(617) 223-5051
www.ncrc.nps.gov

National Park Service
Philadelphia Support Service
200 Chestnut Street, 3rd Floor
Philadelphia, PA 19106
(215) 597-7995
www.ncrc.nps.gov

National Park Service
NY Metropolitan Area Field Office
Waterways and Trailways
1 Bronx River Parkway
Bronx, NY 10462
(718) 430-4668
www.ncrc.nps.gov

US Department of Agriculture
Wildlife Services
1930 Route 9
Castleton, NY 12033
(518) 477-4837
www.usda.gov

US Department of Agriculture
US Forest Service
Northeastern Research Station
11 Campus Boulevard, Suite 200
Newtown Square, PA 19073-3200
(610) 557-4103
www.na.fs.ned.us

US Department of Agriculture
Natural Resources
Conservation Services
441 South Salina St. Ste 354
Syracuse, NY 13202
(315) 477-6524
www.ny.nrcs.usda.gov

US Army Corps of Engineers
1766 Niagara Street
Buffalo, NY 14207-3199
(716) 879-4200
www.lrb.usace.army.mil

US Army Corps of Engineers
NY District
26 Federal Plaza
New York, NY 10278
(212) 264-0100
www.nan.usace.army.mil

US Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10278-0090
(212) 637-3000
www.epa.gov/region02
Wetlands Protection

NYS AGENCIES

Adirondack Park Agency
State Route 86
Ray Brook, NY 12977
(518) 891-4050
www.northnet.org/adirondackparkagency/

NYS Thruway Authority
Canal Recreationway Commission
200 Southern Boulevard
Albany, NY 12201-0189
(518) 436-3055
www.canals.state.ny.us

Cornell Cooperative Extension
(607) 255-2237
www.cce.cornell.edu

Cornell Institute for Resource Information Systems
Center for the Environment
Cornell University
302 Rice Hall
Ithaca, NY 14853
(607) 255-6520 or 255-4662
http://cfe.cornell.edu/ciris/

NYS Department of Agriculture & Markets Agricultural Protection and Development Services
1 Winners Circle
Albany, NY 12235
(518) 457-7076
www.agmkt.state.ny.us

NYS Department of Agriculture & Markets
NY Soil and Water Conservation Districts
1 Winners Circle
Albany, NY 12235
(518) 457-3738
www.agmkt.state.ny.us

Department of Empire State Development
30 South Pearl Street
Albany, NY 12206
(518) 292-5100
www.empire.state.ny.us

NYS Department of EnvironmentalConservation
625 Broadway
Albany, NY 12233
www.dec.state.ny.us

Office of Natural Resources
(518) 402-8560

Office of Natural Resources Planning
(518) 402-9405

Division of Lands and Forests
(518) 402-9405

Division of Fish, Wildlife & Marine Resources - (518) 402-8924

Division of Mineral Resources
(518) 402-8076

Bureau of Marine Resources
205 Belle Meade Road
East Setauket, NY 11733
(516) 444-0430

Hudson River Estuary Section
21 South Putt Corners Road
New Paltz, NY 12561-1696
(845) 256-3016

Region 1
SUNY Campus Loop Road, Building 40
Stony Brook, NY 11790-2356
(631) 444-0270

Region 2
1 Hunters Point Plaza 4740 21st Street
Long Island City, NY 11101-5407
(718) 482-4900

Region 3
21 South Putt Corners Road
New Paltz, NY 12561-1696
(845) 256-3000

Region 4
1150 North Westcott Road
Schenectady, NY 12306-2014
(518) 357-2234

Region 5
Route 86, PO Box 296
Ray Brook, NY 12977-0296
(518) 897-1276

Region 6
State Office Building
317 Washington St.
Watertown, NY 13601
(315) 785-2263

Region 7
615 Erie Boulevard West
Syracuse, NY 13204-2400
(315) 426-7400

Region 8
6274 East Avon-Lima Road
Avon, NY 14414
(585) 226-2466

Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999
(716) 851-7000

NYS Department of State
Division of Coastal Resources and Waterfront Revitalization
41 State Street
Albany, NY 12231-0001
(518) 474-6000
www.dos.state.ny.us

NYS Department of State
Office of Local Government
41 State Street
Albany, NY 12231-0001
(518) 473-3355
www.dos.state.ny.us

NYS Department of Transportation
State Campus, Building 5
Albany, NY 12232
General Information (518) 457-5100
www.dot.state.ny.us

Hudson River Valley Greenway Communities Council
State Capitol
Room 254
Albany, NY 12224
(518) 473-3835
www.hrvg@hudsongreenway.state.ny.us

Greenway Conservancy for the Hudson River Valley
State Capitol - Room 254
Albany, NY 12224
(518) 473-3835
www.hudsongreenway.state.ny.us

Lake George Park Commission
PO Box 749
Fort George Road
Lake George, NY 12845
(518) 668-9347
www.lgpc.state.ny.us

NYS Office of General Services
Bureau of Land Management
Corning Tower
Empire State Plaza
Albany, NY 12242
(518) 474-2195
www.ogs.state.ny.us

NYS Office of Parks, Recreation & Historic Preservation (OPRHP)
Empire State Plaza - Agency Building 1
Albany, NY 12238
(518) 474-0456 (General Information)
Bureau of Resource and Facility Planning
(518) 474-0414
www.nysparks.state.ny.us

Allegany State Park Region
Allegany State Park
2373 ASP Route 1, Suite 3
Salamanca, NY 14779
(716) 354-9101

Genesee Park Region
1 Letchworth State Park
Castile, NY 14427-1124
(716) 493-3600

Niagara Frontier Region
PO Box 1132
Prospect Street
Niagara Falls, NY 14303
(716) 278-1770

Central New York Park Region
6105 East Seneca Turnpike
Jamesville, NY 13078-9516
(315) 492-1756

Finger Lakes Park Region
2221 Taughannock Park Road
PO Box 1055
Trumansburg, NY 14886-1055
(607) 387-7041

Long Island Park Region
Belmont Lake State Park
PO Box 247
Babylon, NY 11702-0247
(516) 669-1000

Saratoga/Capital District Park Region
19 Roosevelt Drive
Saratoga Springs, NY 12866-2000
(518) 584-2000

Taconic Park Region
PO Box 308
Staatsburg, NY 12580
(914) 889-4100

Thousand Islands Park Region
Keewaydin State Park
45165 NYS Route 12
Alexandria Bay, NY 13607
(315) 482-2593

New York City Park Region
679 Riverside Drive
Manhattan, NY 10031
(212) 694-3608

Palisades Interstate Park Commission
Administrative Building
Bear Mountain, NY 10911-0427
(845) 786-2701

OPRHP Historic Preservation Field Services Bureau
Peebles Island
PO Box 219
Waterford, NY 12188
(518) 237-8643

Tug Hill Commission
317 Washington Street
Watertown, NY 13601-3741
(315) 785-2570
www.tughill.org

Long Island Pine Barrens Commission
3525 Sunrise Highway
PO Box 587
Great River, NY 11739-0587
(631) 563-0385
www.pb.state.ny.us

OTHER SOURCES OF ASSISTANCE

Audubon New York. Local chapters may be able to provide information about local biological resources. (*www.ny.audubon.org*)

The American Farmland Trust. A nonprofit organization that works with farmers, business people, legislators and conservationists to encourage sound farming practices and to preserve agricultural resources. This organization publishes a quarterly magazine titled, "American Farmland" and informative brochures about protection options for agricultural land. A helpful guidebook, *Agricultural and Farmland Protection for New York*, is also available from the American Farmland Trust, Northeast Office, Six Franklin Square, Suite E, Saratoga Springs, NY 12866. (*www.farmland.org*)

The Association of State Wetland Managers. This group has produced the *Wetland and Watershed Protection Toolkit: A Compilation of Guidance Materials for Local Government in New York State* in 2002. To order the toolkit, contact the Association of State Wetland Managers, Inc., PO Box 269, Berne, NY 12023-9746, (518) 872-1804 or visit ASWM's website. (*www.aswm.org*)

Center for Watershed Protection is a non-profit 501(c)3 corporation that provides local governments, activists, and watershed organizations around the country with the technical tools for protecting some of the nation's most precious natural resources: our streams, lakes and rivers. The Center has developed and disseminated a multi-disciplinary strategy to watershed protection that encompasses watershed planning, watershed restoration, stormwater management, watershed research, better site design, education and outreach, and watershed training. (*www.cwp.org)*

Community Watershed Groups. Some watersheds and streams have been "adopted" by community-based watershed groups. Watershed groups are typically a locally-led group that draws together a diverse set of interests and technical capabilities to accomplish watershed protection and restoration goals.

Conservation Technology Information Center. Contains Know Your Watershed guides, and information on Building Local Partnerships and Putting Together a Watershed Management Plan. (*www.ctic.purdue.edu/CTIC/CTIC.html*)

County Environmental Management Councils. Many New York State Counties have active Environmental Management Councils. EMCs work closely with local governments, communities, and other county agencies to foster environmental protection, while also advising decision-makers on environmental matters. Some EMCs have taken proactive, leadership roles in watershed protection programs throughout their counties. (*www.nysaemc.org*)

County Soil and Water Conservation Districts (SWCDs). Most counties have a Soil and Water Conservation District which promotes the reduction of soil erosion, nonpoint source pollution and associated environmental impacts. SWCDs have begun to assume a broader role in local environmental management and should be contacted to obtain information about a community's farms, watersheds, lakes, rivers and shorelands. Technical assistance opportunities also should be explored. Phone (518) 457-3738. (*www.nys-soilandwater.org*)

County Water Quality Coordinating Committees. Most counties also have a water quality coordinating committee charged with preparing a water quality strategy and overseeing its implementation. In 1992, federal Clean Water Act funds were allocated to each county committee in the state for the purpose of developing county water quality strategies. Most water quality coordinating committees have members from the county soil and water conservation district, the county department of health, the local or county planning boards, lake associations and other organizations such as the environmental management council. They work on implementing specific projects that have been identified in the county water quality plan and they address watershed issues as they arise. This organization can be contacted for information about the watersheds in a community and for suggestions about how to protect them in an open space plan.

Ducks Unlimited. Local chapters may be able to provide information about local biological resources. (*www.ducks.org*)

Hudsonia, Ltd. is a non-profit, science-based research organization that works throughout the Hudson Valley and beyond. In 2001, they produced the *Biodiversity Assessment Manual for the Hudson River Estuary Corridor*, which was published by

NYS DEC. It is an excellent resource for communities in the Hudson Valley, including techniques to identify, prioritize and protect important ecologically significant habitats. Hudsonia, Ltd., Bard College, Box 5000, Annandale, NY 12504, (845) 758-7053. (*www.hudsonia.org*)

Hudson River Estuary Program. Provides technical assistance to communities in the Hudson Valley for protecting biodiversity, including information and interpretation. Contact the Estuary Program at NYS Department of Environmental Conservation, 21 South Putt Corners Road, New Paltz, NY 12561, (845) 256-3016. (*www.dec.state.ny.us*)

The Hudson River Valley Greenway. Provides funding and technical assistance for trail development and community planning to municipalities in the Hudson Valley. Greenway staff work with municipalities and local groups to help them realize their vision for a trail network in their community. Other public and private trail organizations should be contacted to determine who will have the responsibility of maintaining the trail. Contact: State Capitol, Room 254, Albany, NY 12224, (518) 473-3835. (*www.hudsongreenway.state.ny.us*)

Invasive Plant Council of New York State. Provides information on the effects of invasive plants on biodiversity, their alternatives for gardeners and greenhouses that carry native plants. Located at the New York State Office of The Nature Conservancy, 415 River Street, 4th Floor, Troy, NY 12180, (518) 271-0346. (*www.ipcnys.org*)

Land Trust Alliance of New York. To find a land trust near you contact the LTA of New York at PO Box 792, Saratoga Spring, NY 12866, (518) 587-0774. (*www.lta.org*)

Lincoln Institute of Land Policy. The Lincoln Institute of Land Policy is a nonprofit educational institution established in 1974 to study and teach land policy and taxation. By supporting multidisciplinary educational, research and publications programs, the Institute brings together diverse viewpoints to expand the body of useful knowledge in two departments—valuation and taxation, and planning and development. Contact: Lincoln Institute of Lan Policy, 113 Brattle Street, Cambridge, MA 02138-3400. (*www.lincolninst.edu*)

The National Park Service Rivers and Trails Conservation Assistance Program. This program helps states, communities and private organizations conserve river and trail corridors. The program provides technical assistance. Park Service staff participate in active conservation efforts, they provide assistance with preparing inventories of river and trail corridors and they provide assistance with developing and implementing conservation plans. Contact: NYS Office, Roosevelt-Vanderbilt National Historic Site, 4097, Albany Post Road, Hyde Park, NY 12538, (845) 229-9115. (*www.nps.gov./ncrc*)

Natural Resource Conservation Service (NRCS). Contains downloadable versions of National Watershed Manual and "Aging Watershed Infrastructure" documents and provides information on Watershed Protection and Flood Control Operations, Watershed Surveys and Planning, Wetlands Conservation Compliance, Wetlands Reserve Program and Wildlife Habitat Incentives Program. (*www.nrcs.usda.gov*)

The Nature Conservancy. The world's largest nonprofit conservation organization, it has five New York offices separated by region. An office closest to you can be found on the The Nature Conservancy website. The New York Office is at 415 River Street, 4th Floor, Troy, NY 12183, (518) 273-9408. (*www.nature.org*)

New York Natural Heritage Program. Is a joint program of the NYSDEC and The Nature Conservancy. The Heritage program inventories the state for rare plant and animal species, as well as exemplary natural communities. The New York Program is part of NatureServe, the Network of Heritage Programs in the US and Canada. Contact: New York Natural Heritage Program, 625 Broadway, 5th Floor, Albany, NY 12233-4757, (518) 402-8935. (*www.nynhp.org*)

New York State Biodiversity Research Institute. BRI is a clearinghouse for biological information. The BRI is located in the New York State Museum, CEC 3140, Albany, NY 12203, (518) 486-4845. (*www.nysm.nysed.gov/bri*)

New York State Department of Agriculture and Market's Division of Agricultural Protection and Development Services. Has the responsibility for providing technical assistance to county agricultural and farmland protection boards. Assistance program information is available on the website. If a county agricultural and farmland protection board exists, it may be in the process of preparing an agricultural protection plan. This board can assist with the preparation of the inventory and the open space plan. (*www.agmkt.state.ny.us*)

New York State Department of State Coastal Program. This program provides funding and technical assistance to coastal communities for water quality and aquatic habitat protection and restoration. NYS DOS Coastal also works with communities to develop Local Waterfront Revitalization Plans. For more information contact: Division of Coastal Resources, 41 State Street, Albany, NY 12231-0001, (518) 474-6000; Fax: (518) 473-2464. (*www.dos.state.ny.us/cstl/cstlwww.html*)

New York State Department of Environmental Conservation's Division of Water. Protects water quality in lakes, rivers, aquifers and coastal areas by regulating wastewater discharges, monitoring waterbodies and controlling surface runoff. Division of Water manages availability of freshwater resources, and helps communities prevent flood damage and beach erosion, while also promoting water stewardship and education. (*www.dec.state.ny.us/website/dow/index.html*)

Non-point Education for Municipal Officials is a program created at the University of Connecticut to educate local land use officials about the relationship of land use decisions and natural resource protection. Much of the current focus is targeting town officials to plan appropriately at both the town and site level to protect water quality. (*www.nemo.uconn.edu*)

Open Space Institute, Incorporated. The Open Space Institute is a nonprofit land conservation organization protecting significant recreational, environmental, agricultural and historical landscapes throughout New York State. Establishing areas of emphasis throughout the State with particular focus on the Hudson River Valley, OSI has made substantial positive impacts on the landscapes of the Hudson Highlands, Shawangunks, Catskills, Helderbergs and Adirondacks. Contact: Open Space Institute, 1350 Broadway, Room 201, New York, NY 10018-7799 or call (212) 629-3981. (*www.osiny.org*)

Pace Land Use Law Center is a resource center for land use planning law. *Preserving Natural Resources through Local Environmental Laws: A Guidebook for Local Governments* lists sample ordinances that have been implemented in New York State. It also hosts Community Leadership Alliance Training, which provides training for local leaders on land use issues and conflict resolution. Land Use Law Center, Pace University School of Law, 78 North Broadway; White Plains, NY10603, (914) 422-4262. (*www.pace.edu/lawschool/landuse*)

Quality Communities Clearinghouse Website. To make it easier for all communities to take advantage of State programs and assistance, the 25 State agency members of the Quality Communities Interagency Working Group collaborated with the Department of State to create a Quality Communities Clearinghouse Website. The Clearinghouse provides instant access to grant information, technical assistance, success stories, data, news and other tools designed to assist local governments, community organizations and citizens in their efforts to build Quality Communities. (*www.dos.state.ny.us/QC*)

Resource Conservation Development Program. This program is adminstered by The Natural Resources Conservation Service (NRCS). Under this program, several Resource Conservation and Development Council offices have been established throughout the state to provide technical assistance to farmers. This assistance encourages farmers to continue to work their farms, thus allowing the community to retain the open space benefits that the farmland provides. (*www.nrcs.usda.gov*)

The River Network contains a resource library with information on watershed protection and restoration, links to major environmental organizations, state government agencies, federal agencies and U.S. Congress River and Watershed organizations and the annual River Rally conference that offers workshops on river protection and restoration. (*www.rivernetwork.org*)

Scenic Hudson. Scenic Hudson's mission is to ensure that tomorrow's Hudson River Valley - from Manhattan to the foothills of the Adirondacks - is environmentally and economically sustainable and that its capacity to awe and inspire residents and visitors is preserved forever. Contact: Scenic Hudson, 9 Vassar Street, Poughkeepsie, NY 12601, (845) 473-4440. (*www.scenichudson.org*)

Trout Unlimited. Local chapters that may be able to provide information about local biological resources. (*www.tu.org*)

Trust for Public Land. The Trust for Public Land is a national nonprofit working exclusively to protect land for human enjoyment and well-being. Contact: The Trust for Public Land, 666 Broadway, 9th Floor, New York, NY 10012, (212) 677-7171. (*www.tpl.org*)

United States Environmental Protection Agency's Office of Wetlands, Oceans and Watersheds. This website contain numerous links to programs de-

signed to help the public connect with and protect their local water resources. Here are a few examples of the types of information contained within the website: *Index of Watershed Indicators* (*www.epa.gov/watershed/waacademy*), *Model Ordinances* (*www.epa.gov/owow/nps/ordinance*), *Surf your watershed* (*www.epa.gov/owow/watershed*), *Protecting and Restoring America's Watersheds* (*www.epa.gov/owow/protecting*), and *Watershed Restoration* (*www.epa.gov/owow/restore*).

US Fish and Wildlife Service New York Ecological Services Office. The New York Field Office is responsible for managing all of the Service's ecological programs and activities in the state of New York, including endangered species, environmental contaminants, federal projects, permits and licenses, Partners for Wildlife, various outreach activities and environmental coordination. Partners for Wildlife is a technical assistance program. The office also oversees the Long Island ES Field Office in Islip, Long Island, NY. (*www.northeast.fws.gov/ny/nyfo.htm*)

U.S. Fish & Wildlife Service
Ecological Services Office
3817 Luker Road
Cortland, New York 13045-9349
Telephone: (607) 753-9334
FAX: (607) 753-9699

U.S. Fish & Wildlife Service - Long Island
Ecological Services Office
P.O Box 608
Islip, NY 11751-0608
Phone: (631) 581-2941
Fax: (631) 581-2972

United States Geological Survey's numerous water-related programs can be found on the website. (*www.water.usgs.gov*)

The Upstate Groundwater Management Program and the Long Island Groundwater Management Program. The location and potential yield of unconsolidated (sand and gravel) aquifers in New York State have been mapped by the United States Geological Survey (USGS) in cooperation with DEC. These maps have been published on a scale of 1:250,000 (one inch equals four miles) and are sold by the USGS in five sheets covering upstate New York. These maps, sometimes referred to as strip maps, also contain a brief summary text and bibliography for the subject area. However, their scale limits their utility for site-specific interpretations. Maps on a larger scale may be necessary, depending on their purpose.

Large scale maps of the 18 primary aquifers in Upstate New York, and of selected principal unconsolidated aquifers are also available in a series of reports that can be viewed in DEC's central office in Albany in the Water Division's Geotechnical Services Section. These reports consist of a set of 1:14,000 scale maps describing the hydrogeology of specific aquifers including locations of wells and test holes, surficial geology, geologic cross-sections, water table or piezometric altitude, saturated thickness of valley-fill aquifer, estimated well yields, land use and other parameters. These reports may be used by State and local government agencies to facilitate water-management decisions and local open space planning. Primary aquifers are those that are highly productive and presently used as a water supply source by major municipal water supply systems. Principal aquifers differ in that they are known to be productive but they are not currently intensively used as water supply sources for major municipal systems.

Wildlife Conservation Society. It has two programs in New York:

Adirondack Communities and Conservation Program takes an regional approach to understanding the linkages between community development efforts, the surrounding natural environment and other conservation issues within the Adirondack Park. A working paper describes three case studies: Kretser, Heidi. *Adirondack Communities and Conservation Program: Linking Conservation and Communities inside the Blue Line.* WCS Working Paper No. 16, June 2001. Available for download from the website. Adirondack Communities and Conservation Program; PO Box 26; Paul Smith's, NY 12970 (518) 327-6989. (*wwww.wcs.org/science*)

Metropolitan Conservation Alliance. A program of the Wildlife Conservation Society at the Bronx Zoo that works with communities in metropolitan New York City to identify important biological resources. It has produced several technical papers that identify land use tools to protect nature 68 Purchase Street; Rye, NY 10580, (914) 925-9164. (*www.wcs.org/home/wild/northamerica/973/*)

Andrew M. Cuomo
Governor

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