

Natural and Cultural Resources

Community Goal:

Protect and enhance the quality of the Town's natural, cultural, historic, and scenic resources.

Objectives:

- Protect all areas with significant natural and cultural resources in the Town.
- Maintain the Hudson River Shoreline as an important scenic resource, and develop and protect riverfront access and activities.
- Develop a preservation plan for Illinois Mountain.
- Preserve and protect groundwater for current and future needs.
- Protect wetlands, surface waters, floodplains, the watershed and other environmentally sensitive areas.
- Maintain biodiversity by striking a balance between economic growth and ecological health.
- Strengthen the Town's sense of place by preserving and commemorating significant historic and archaeological structures and sites.
- Protect scenic resources such as open space, ridgelines, and scenic viewsheds.
- Preserve topsoil and existing topography.

Lloyd has an abundance of significant natural and cultural resources. These resources have been identified in Chapter 2, and are discussed more fully below. To protect areas where significant resources have been identified, the Town should consider adoption of Conservation Area Overlay Districts, which simultaneously address a wide variety of resources such as wetlands, floodplains, aquifers, scenic resources, steep slopes, forests, and wildlife habitat. A model overlay ordinance that encompasses all of these topics is available from the Wildlife Conservation Society's Metropolitan Conservation Alliance.

7.1 HUDSON RIVER SHORELINE

The Hudson River shoreline is one of the Town's most significant natural resources. In 1994, the Town adopted a Local Waterfront Revitalization Program (LWRP) and a Waterfront Bluff Overlay District (WBOD) to protect this environmentally sensitive area. To further protect scenic and natural resources in this area, the *Comprehensive Plan* recommends that density in the WBOD be reduced from one unit per two acres to one unit per three acres. The Town should also inventory all

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cultural and historic resources along the river, and should notify the NYS Office of Parks, Recreation and Historic Preservation of prehistoric sites discovered during review of new development proposals so they can be added to the State Inventory. Finally, the Town should continue to participate in the planning and development of a trail that will run along the Hudson River shoreline in Lloyd. Scenic Hudson recently purchased a 249-acre parcel, known as Franny Reese Preserve, on the Hudson River bluffs with the intent of providing a trail for public access. This trail would provide scenic views of the River from the bluffs and encourage the promotion of pedestrian access to riverfront parks. The Town should encourage the extension of this waterfront trail southward along the Hudson River bluffs during the review of development proposals in this area.

7.2 ILLINOIS MOUNTAIN

Illinois Mountain is an important area in Lloyd for a variety of reasons. It contains a diversity of habitats, it is a wildlife dispersal route, and it serves as a scenic backdrop that maintains the rural character of Lloyd. For these reasons, the *Comprehensive Plan* recommends that the Town take steps, described below, to maintain the environmental, scenic, and habitat values of Illinois Mountain.

The State Environmental Quality Review Act (SEQR) provides a means to identify and assess unique or exceptional natural or cultural resources in a community through the designation of Critical Environmental Areas (CEA). Any agency that regularly reviews and approves development projects, such as the Planning Board, can designate a CEA after a public hearing. Once designated, all SEQR reviews must include an assessment of the CEA and ensure that the development project does not create an environmental impact that would harm or destroy the exceptional or unique resource. To assist in the protection of the significant scenic and environmental resources of Illinois Mountain, the *Comprehensive Plan* recommends that the Town designate Illinois Mountain a CEA under SEQR.

To warrant a CEA designation, an area must have an exceptional or unique character in one or more of four areas: 1) a benefit or threat to human health; 2) a natural setting such as wildlife habitat, forest and vegetation, open space and areas of important aesthetic or scenic quality; 3) agricultural, social, cultural, historic, archaeological, recreational, or educational values; or 4) an inherent ecological, geological or hydrological sensitivity that may be adversely affected by any change. Illinois Mountain qualifies for CEA designation for its scenic qualities and potential recreational use, its State designated significant habitat area and protected native plants, and as a watershed that drains into significant habitats, wetlands, and the reservoir

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system that supplies drinking water to Highland. The Highland reservoir is a primary source of water for the hamlet. New land uses and expansions of existing land uses within this watershed, particularly those land use activities that affect stormwater runoff, have the potential to cause contamination of the reservoirs that the hamlet depends on. Development can also result in the erosion of fragile mountain soils. It is therefore important for such land use activities to be reviewed under SEQR for their potential effects on the watershed.

Protecting the scenic character of Illinois Mountain is important to maintaining the Town's rural atmosphere, sense of place, and scenic landscapes, all of which contribute to the Town's quality of life and its attractiveness for residential and commercial development, as well as for tourism. To protect the scenic character of Illinois Mountain, the *Comprehensive Plan* recommends that the Town adopt a Conservation Overlay District on Illinois Mountain.

Overlay zoning is well established as an innovative zoning technique in New York State, and it is frequently used to protect environmentally sensitive resources. An overlay zone does not change the underlying zoning regulations of the respective district or preclude development, but it normally imposes additional zoning requirements, usually in the form of specific design and performance standards. Overlay zoning has been defined in Rathkopf's *Law of Planning and Zoning* as a mapped district "superimposed on one or more established zoning districts [which] may be used to impose supplemental restrictions on uses in these districts, permit uses otherwise disallowed, or implement some form of density bonus or incentive bonus program." A parcel of land within the overlay zone will, thus, be simultaneously subject to two sets of zoning regulations: the underlying and the overlay zoning requirements.

The Conservation Overlay District would cover areas of Illinois Mountain above a certain elevation and would be designed to protect, enhance or restore significant natural features and the ecological connections between them. Permitted uses would include forestry, agriculture, and recreation. For properties that run up the mountain, development would be required to be clustered on portions of the property located outside the overlay district. In this way, landowners could realize the development potential of their lands while protecting open space and sensitive environments such as steep slopes, wetlands and wildlife habitats. An additional benefit of the overlay district is that it would allow the creation of a Greenway Trail along Illinois Mountain on the portions of the property that could not be developed.

The Town should also adopt a telecommunications law to protect the scenic resource of Illinois Mountain and other ridgelines. The telecommunications law should be structured to require co-location on existing structures on Illinois Mountain, rather than constructing new towers. On other ridgelines in

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the Town, co-location should be encouraged, and new towers should be prohibited from protruding above the ridgeline, and should be completely camouflaged, either with existing vegetation or through the use of “stealth technology” that disguises towers as trees or other structures appropriate to the specific area where they are to be located.

To further protect steep slopes, fragile mountain soils, and open space on Illinois Mountain, and to develop this area’s potential for recreational trails, the Town should actively encourage landowners to place conservation easements on the most environmentally sensitive areas of their properties, and should target specific areas for acquisition. A conservation easement is a means to preserve sensitive environmental features of a property, such as steep slopes, open space, and wetlands, while permitting the property to remain in private ownership. If property owners establish easements on their property, assessors can take such agreements into account when establishing the property tax rate. Fair market value is the basis of property assessment, and easements on a parcel of land usually reduce market value and, thereby, total assessment. In addition, current federal income tax regulations permit the write-off of up to the full market value of the easement. The potential for a significant tax benefit is often an incentive to landowners to place easements on their property.

Direct acquisition is the simplest and most effective method of protecting environmentally sensitive land. However, it is also the most expensive. Thus, any land the Town considers for acquisition must be carefully considered. The development of an Open Space Plan as a component of this *Comprehensive Plan*, as discussed later in this chapter, would be one means to identify land the Town should acquire. The Town could also encourage private organizations such as the Wallkill Valley Land Trust, Trust for Public Land, Open Space Institute, The Nature Conservancy, the Audubon Society, and Scenic Hudson to seek land or easement donations or, alternatively, to purchase properties identified by the Town as significant.

Fifty acres of land on Illinois Mountain have already been donated to the Town and a conservation easement has been placed on this land. The parcel is accessible by trail and is a potential resource for passive recreation. The Town should consider applying for a grant from the Hudson River Valley Greenway to develop a Greenway Trail on this land. Future acquisitions or easements would permit extending the trail along the ridge.

7.3 GROUNDWATER

Groundwater resources are critical to future development in Lloyd. Since areas of the Town outside the hamlet of Highland rely on well water for

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domestic needs, it is essential to assure there is an adequate supply for future growth and to protect this supply from potential pollution.

The term groundwater refers to the water that exists below the surface of the ground. It originates when water falls as rain or snow, and then seeps into the ground. Water first passes through the unsaturated zone, where soil pores are filled partly with air and partly with water. Water then continues to flow downward into a saturated zone (the water table) where all pores are filled with water. These can include multiple pores, such as in sand or gravel, or more limited pores in bedrock, such as rock fractures and cavities. Water in the saturated zone is referred to as groundwater. When water flows into the ground, it is said to recharge the groundwater that exists there. Recharge occurs primarily from precipitation and from surface waters, such as lakes, streams, and wetlands. In areas where septic disposal systems exist, groundwater is also recharged by such systems. When underground sand, gravel, and bedrock are capable of yielding usable amounts of water, they are referred to as an aquifer. Aquifers located in sand and gravel are known as unconsolidated aquifers, while those in bedrock are called consolidated.

Aquifers are also categorized as either confined or unconfined. Confined aquifers have an impermeable layer above the aquifer that impedes water from easily entering the water table. In unconfined aquifers, water recharges by percolating through the ground directly to the water table. Consequently, unconfined aquifers are more susceptible to contamination. Contamination can occur through road salt, hazardous chemicals, pesticides, fertilizers, and petroleum products. Failing on-site septic systems, or inadequately sized building lots that do not permit adequate recharge for both a septic system and a well, can also contaminate aquifers.

Lloyd has three aquifers in the Town, including one bordering the Town of New Paltz. These aquifers consist of sand and gravel, and yields of more than 100 gallons per minute may be available from the largest aquifer that Lloyd shares with New Paltz. The other two aquifers are of unknown potential.

The *Comprehensive Plan* recommends that the Town develop an aquifer overlay zone to protect and preserve the quality and quantity of groundwater resources that the Town depends on for its present and future water supply. Densities and land uses in aquifer and aquifer recharge areas should be regulated to permit maximum recharge and to protect water quality. The Town should consider requiring clustering for residential subdivisions in the aquifer overlay district to reduce the amount of impervious surfaces. In addition, the aquifer overlay should prohibit certain uses and place performance standards on others. Uses that should be prohibited include disposal wells, toxic chemicals, industrial sludge or radioactive materials, wastewater lagoons and pits for temporary storage of wastewater,

underground petroleum storage tanks, and the stockpiling or dumping of snow. Infiltration basins should also be prohibited unless surface water quality flowing into the infiltration basin is of sufficient quality that groundwater will be protected. Performance standards (such as the need for enclosed buildings or structures) should be adopted for the storage of animal wastes, fertilizers, pesticides and herbicides, and salt and coal to ensure provision has been made to prevent seepage of these substances into groundwater.

For all areas of the Town, the *Comprehensive Plan* recommends that the Town require innovative stormwater management techniques—those that increase local infiltration rates, reduce runoff from impervious surfaces, improve groundwater recharge, and reduce flooding and pollution problems—for new developments and for retrofits, wherever possible. Promising techniques include those prepared by the Low Impact Development Center (LID).¹ Pump testing of wells associated with subdivision activities should also be required.

7.3.1 Hazardous Waste Disposal Sites

Lloyd has one inactive hazardous waste disposal site, listed in the Department of Environmental Conservation's Registry, where groundwater contamination has been confirmed. The Mead property on North Riverside Road (site #356019) has pits that were excavated to receive septage. Contamination of groundwater and nearby private wells with volatile organic compounds has occurred because of disposal of hazardous waste in these pits. The open pits act as unlined impoundments for hazardous waste and continue to affect the groundwater. A State Superfund Remedial Investigation/Feasibility Study of the site has been completed, and clean up of the site has begun. Affected homes in the vicinity have been connected to the Highland Water District public water supply. The DEC classifies suspected hazardous waste sites on a scale ranging from 1 (sites posing immediate danger and requiring immediate action) to 5 (sites properly closed with no evidence of adverse impact and requiring no further action). The Mead property is classified 4, a site that is properly closed but requiring continued management. The Town's Environmental Conservation Council should monitor the ongoing cleanup and management of this site.

7.4 SURFACE WATER

The Town should require site plan approval for all development within 100 feet of wetlands, surface waters, and other environmentally sensitive areas. Special application procedures should be required whenever a development

¹ More information is available at www.lid-stormwater.net.

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proposal involves construction adjacent to a water body. Buffer areas can be utilized as a means of keeping development away from areas such as lakes, ponds or streams and out of flood prone areas and as a means of protecting water quality, recreational access, and scenic beauty. The Zoning should be amended to establish appropriate setbacks for new development and other techniques to maintain and improve the water quality of Chodikee and Lily Lakes. Approval of erosion control plans by the Town Planning Board or Building Inspector should continue before building permits are issued. Erosion control plans are currently submitted by potential developers along with their applications for subdivision or site plan approval. Ideally, the Town should encourage designs that will avoid potential difficulties and preserve natural drainage to the greatest extent possible rather than devising expensive engineering solutions. "Zero Runoff" should be required of all development proposals to control drainage so that the rate of water runoff from any land tract remains the same or less after the completion of development as it was before construction began. Low Impact Development (LID) techniques can be applied to reduce runoff rates, as previously discussed.

Local protection of the Swarte Kill, Black Creek and Twaalfskill will be ineffective without regional watershed based cooperation. Rivers and streams ignore political and jurisdictional boundaries. They reflect activity not just within one municipality or the immediate shoreline but throughout the entire watershed. Protecting these surface waters will require a coordinated effort within multiple municipalities and the development of a management plan. Recommended management strategies to protect water resources include, but are not limited to, innovative stormwater management techniques, setbacks for buildings and construction, and habitat and viewshed protection. The management plan should also identify resources in need of protection, define compatible uses, establish intermunicipal boards or committees to review projects with regional impact, create incentives for land trusts to become more involved in land use protection efforts, identify key land acquisitions by public agencies, manage growth, and encourage recreational development along the streams. Appropriate river management boundaries for activities that have the potential to degrade the Creeks, such as clear cutting, water impoundments and land subdivision, should also be defined.

As discussed in Chapter 3, the *Comprehensive Plan* recommends that one way to establish a regional watershed association would be to join with neighboring municipalities and request that the Community Leadership Alliance (CLA) sponsor a training program specifically designed to address this issue. Bringing local municipal officials and community leaders together in a hospitable setting with a program structured around this topic might be an effective means to initiate intermunicipal dialogue on the need for regional cooperation.

7.4.1 Wetlands

Lloyd has the greatest concentration of wetlands of any municipality in Ulster County. The wetlands associated with the Swarte Kill, Black Creek, and Twaalfskill comprise some of Lloyd's most environmentally sensitive lands. Many of these wetlands are extremely biologically rich, supporting a diversity of rare, endangered, and locally significant plants and animals. Much of this drainage area contains NYSDEC Class II and Class III designated wetlands. Class I wetlands have the most stringent requirements for permit issuance, whereas Class IV have the least. As the Town continues to develop, these areas should be protected.

Freshwater wetlands play a critical role in flood abatement, water quality improvement, and recharge of aquifers. By capturing surface water runoff, wetlands allow floodwaters to be stored and released more slowly. Many of the sediments contained in the runoff are deposited in wetlands, and the reduction in the severity and speed of the runoff greatly reduces the erosion that occurs downstream. The temporary storage of these floodwaters and the long-term retention of other runoff allows for the recharge of underlying aquifers. The slow and steady recharge provided by the wetland areas is essential to maintain adequate supplies of potable water. In Lloyd, wetlands preserve the watershed for the reservoir system that supplies drinking water to Highland. Wetlands also provide critical habitat and food resources for the Town's breeding populations of wildlife, as well as migratory species. Freshwater wetlands are considered among the most prolific types of ecosystems found on earth for the variety and volume of life they support. Figure 32 at the end of the *Comprehensive Plan* shows the location of the Town's surface waters and major wetlands.

Many wetlands fall under the jurisdiction of the New York State Department of Conservation (DEC) and/or the US Army Corps of Engineers. Close regulatory control by these agencies strictly limits development that would lead to the loss of wetlands or impair their functioning and benefits. Wetlands over 12.4 acres (5 hectares) in size, as well as certain smaller but important wetlands, are mapped and protected by the DEC. Construction activities that might impact these wetlands, such as excavation, filling, building obstructions, and potential pollution sources, are regulated whether the activities occur in the wetland itself or impinge on the protected 100-foot buffer area adjacent to the wetland.

Section 404 of the Clean Water Act provides the US Army Corps of Engineers (ACOE) with jurisdiction over wetlands determined to be waters of the United States. The Corps uses a combination of soil type, hydrology, and plant communities to determine the presence and extent of wetlands. In 1986, the Corps issued a comprehensive set of wetland regulations, which require that a

permit must be obtained for the discharge of dredged or fill material into wetlands. This means that individuals cannot undertake activities involving the filling of a wetland, even on private land, without an ACOE permit. Federal wetland regulations differ from New York State's in that they extend to all wetlands regardless of size, no buffer area is included, and the Corps has not mapped the wetlands. This places the burden on the landowner to determine whether federal wetlands exist prior to filling any wet areas on their property. If a property under consideration for development contains soils classified as hydric (or as having hydric inclusions), the landowner should hire a wetland biologist to review the land to ensure that no federal wetlands exist on the site prior to any disturbance.

A recent decision by the U.S. Supreme Court leaves many wetlands unprotected and vulnerable to the impacts of development. The decision restricts the Army Corps' jurisdiction to wetlands that are connected to navigable waters. This means that isolated wetlands are no longer subject to regulation, despite the fact that these wetlands serve a significant environmental function. A report released in June 2002 by the U.S. Fish & Wildlife Service found that isolated wetlands are as valuable to the environment as other wetlands.

Due to the Supreme Court decision, and due to other limitations of State and Federal regulations, many important wetlands remain unprotected or under-protected. For instance, vernal pools (small, isolated, seasonal wetlands) are rarely regulated because most of them are small, isolated, and not connected to a tributary. And yet vernal pools perform unique functions that are lacking in larger and connected wetlands. For instance, they support a diversity of frogs and salamanders that require vernal pools to successfully reproduce. These vernal pools serve as nurseries for the base of the food chain that supports entire forest ecosystems. Small wetlands such as vernal pools are often filled or drained because these activities are not regulated in small wetlands.

In light of the shortcomings of State and Federal regulations, many towns in New York State have adopted local wetland laws. The *Comprehensive Plan* recommends that Lloyd develop a local wetland law to protect these environmentally sensitive areas. The law should extend regulatory protection to isolated wetlands and wetlands less than 12.4 acres. Special application procedures should be required whenever a development proposal involves construction adjacent to a wetland. All wetlands in the Town should be protected from development impacts with at least a 100 foot buffer area, and density, particularly in the northwest area of the Town where substantial wetlands are located, should be reduced. The wetlands law should also require that development proposals first and foremost *avoid* wetland impacts. Only after it has been demonstrated that wetland impacts are unavoidable should the Town consider mitigation alternatives.

Adoption of a strong local wetlands law would greatly improve the conservation of wetlands in Lloyd. However, it is not feasible to design regulations that can fully protect wetland landscapes or the wetland-dependent wildlife that also require intact adjacent uplands. Better protection can only be achieved by incorporating these concerns into the land use planning process. Therefore, the *Comprehensive Plan* recommends that the Town Board, Planning Board, and Zoning Board of Appeals adhere to WCS/MCA's "Technical Paper #5: Best Development Practices: Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States" when reviewing proposals. It is also recommended that the Town consider conducting a Town-wide survey of vernal pools; details for this procedure are provided in the above-referenced publication.

7.4.2 Black Creek

The Black Creek is an unusually pristine waterway that offers unique opportunities for recreation and for naturalists to observe and study plants, wildlife habitats, and migrations of many species of birds. The Black Creek/Swarte Kill drainage is one of the most important areas for biodiversity in the Town. It is part of the Esopus/Lloyd Wetlands and Ridges ecosystem, an area recognized by the NYS Department of Environmental Conservation's Hudson River Estuary Program as a significant biodiversity area.

The Town's Environmental Conservation Council (ECC) has developed a plan for an 11-mile water/land trail along the Black Creek from Old New Paltz Road in the Town of Lloyd to the Hudson River at the Black Creek Forest Preserve in the Town of Esopus. The land portion of the trail would connect the water trail to the Black Creek Forest Preserve, and the Town is working with the neighboring Town of Esopus to develop that portion of the trail.

The purpose of the trail is to enable canoers and kayakers to access the Black Creek for recreational use, and to facilitate school programs for ecological studies. The goal of the ECC is to use information and data collected in the area to assist in the preservation and protection of the Creek's natural and cultural resources. A map of the Black Creek Water/Land Trail appears as Figure 28 at the end of this Chapter. The ECC's Action Plan for the Black Creek Water/Land Trail, including the list of sites to be developed, is included in the supplementary volume of this *Comprehensive Plan*.

The ECC has organized a community led effort, comprised of many local organizations and collectively called "The Friends of the Black Creek," to establish the trail. These organizations are clearing and maintaining the trail and portage sites, and assisting with funding. Clearing efforts began in

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October 2000, and currently, the entire length of the watertrail from Old New Paltz Road to the Division for Youth Road off North Chodikee Lake Road is free of debris and is navigable. Students at Ulster County Community College recently mapped the entire watertrail, determining water quality and collecting waterflow data on the Black Creek watershed. The mapping will help to identify portage areas, and the data will be made available to the Town for planning purposes.

In 2003, the Town received a Greenway grant to create a master plan for the Black Creek Water/Land Trail. The plan will identify access points along the trail and easements needed to create portage areas. It will also include design recommendations for a planned observation deck where the water trail passes under the Hudson Valley Rail Trail. The *Comprehensive Plan* recommends that the Town continue to support this important project.

The Town should also recommend designation of the Black Creek into the NYS Wild, Scenic and Recreational Rivers system.

7.5 BIODIVERSITY

The Town of Lloyd is home to exceptional biodiversity. But efforts to preserve biological resources accomplish more than just maintaining species and habitats; Lloyd's citizens also directly benefit in many ways from such efforts. Biodiversity provides ecological services that can often be measured in economic terms. For example, wetlands protected for their biodiversity also provide a variety of other functions, including flood abatement, water quality improvement, recharge of drinking-water aquifers, maintenance of stream flow throughout the year, recreational opportunities, and more. Insect biodiversity provides an important service in the pollination of crops. The productive farmlands of Lloyd, in turn, provide habitat for many important wildlife species. At the same time, they help to maintain the rural character that defines the Town's landscapes.

Scientific research has demonstrated that habitat fragmentation—i.e., dissecting large blocks of habitats into smaller fragments through road construction, subdivisions, and forest clear cutting—causes many species to disappear. Research has also shown that this process can cause human health problems. A recent study, published in the February 2003 issue of the scientific journal *Conservation Biology*, demonstrated that reductions in small mammal diversity—stemming from forest fragmentation—leads to increased incidences of Lyme disease in humans.

The biodiversity of Lloyd is a direct measure of ecosystem health. A healthy, biologically diverse landscape that contains a network of connected habitats is resilient to change and can provide ecological services to Lloyd’s citizens, now and into the future. Protecting biodiversity will help to preserve property values and ensure that the Town of Lloyd continues to be a healthy, desirable place to live.

7.5.1 Integrate Biodiversity into Local Planning

Protecting biodiversity should be integrated directly into the *Comprehensive Plan* and other Town planning tools, so that land use decision-makers can consider site-specific decisions in light of overall, Town-wide goals. By proactively and formally establishing goals and methods for conserving biodiversity, the Town can avoid uncertainty and costly disputes during the development proposal review process.

The Wildlife Conservation Society's Metropolitan Conservation Alliance (WCS/MCA) is currently conducting a biodiversity study for the Town of Lloyd. Information gathered from baseline biological surveys will distinguish areas within Lloyd that require more sensitive ecological management from those areas better suited for development. Such information is rarely available at a scale that is useful for Town planning. Data obtained from local baseline inventories will be combined with data from other sources, such as the New York Natural Heritage Inventory, to make biologically sound decisions during planning processes. The final project report will include a map indicating areas within Lloyd that are ecologically sensitive or biologically rich. Areas that are more suitable for development will also be indicated. The report will include specific recommendations and options for maintaining biodiversity, ecological function, and landscape connectivity, as well as strategies to manage biodiversity on an inter-municipal basis with neighboring towns. The final report should be adopted as an addendum to the *Comprehensive Plan*, subject to Town Board review.

Proactive conservation planning is needed as a supplement for regulatory protection of natural resources. Regulations—such as those that protect wetlands, limit development on steep slopes, or promote clustering—help control environmental deterioration. However, regulations alone are insufficient to protect biodiversity; the protection of biodiversity should be considered a baseline layer in the planning process.

7.5.2 Strategies to Integrate Biodiversity into Local Planning

There are a number of ways in which biodiversity protection can be incorporated into the local planning process. The *Comprehensive Plan* recommends that the Town consider utilizing the following measures to maintain biodiversity.

- **Biodiversity Assessment Guidelines** The SEQR process requires that municipalities consider the impacts of proposed developments on natural resources, including wildlife populations. Many towns have adopted standards for certain aspects of the SEQR process (for example, wetland assessments and delineations), but have no such standards for wildlife or biodiversity assessments. Assessments are usually conducted by biologists working for the developer. Because there are no standards or guidelines, these assessments often fail to supply the level of detail that is required to make informed decisions. Information-based decisions are necessary to ensure the continued integrity of a town's natural resources. For example, working with the MCA/WCS, the town of Cortlandt in Westchester County, NY has adopted specific wildlife biodiversity assessment guidelines. These guidelines ensure that adequate effort is being expended—at appropriate times of year using appropriate techniques—to assess wildlife resources. The *Comprehensive Plan* recommends that the Town adopt Biodiversity Assessment Guidelines.
- **Innovative Regulations** The development of innovative regulations that build upon a town's home rule authority can maintain biodiversity while respecting a community's right to grow and prosper. For example a "conservation area overlay zone" can be adopted by a municipality to reduce development impacts in sensitive areas and to redirect development away from such areas, to places that can better sustain development. The *Comprehensive Plan* recommends that the Town consider and adopt overlay district ordinances in portions of the Town determined by the WCS/MCA to be ecologically important and/or sensitive.
- **Open Space Planning and Farmland Preservation Efforts** Parcels are often prioritized as part of open space planning and farmland preservation efforts. This prioritization is traditionally based on factors such as accessibility, economic feasibility, scenic values, potential for recreation activities, etc. Biodiversity concerns should be woven into this prioritization process. By considering factors such as habitat quality, habitat diversity, habitat connectivity, and known locations of wildlife populations, the preservation of open space and farmlands can

help to maintain biodiversity in Lloyd. The *Comprehensive Plan* recommends that the Town integrate biodiversity issues into the Open Space Plan that is recommended in Section 7.7.

- **Working at an Inter-Municipal Scale** Ecosystems exist at the scale of thousands of acres, many at tens of thousands of acres. And yet, most planning decisions are made at a scale of a hundred acres or less, which is a small fraction of any given ecosystem. Decisions made at small scales cannot be re-assembled back into ecosystems totaling thousands of acres. Despite extensive environmental review through the SEQR and local decision-making authorities, most of these decisions contribute to biodiversity loss by fragmenting large ecosystems into smaller, less functional units. Cumulatively, these site-by-site reviews have a major impact on Lloyd's biological resources. To adequately protect biodiversity requires that communities plan at broader scales. This requires cooperation among neighboring municipalities, since most ecosystems span multiple political jurisdictions. Lloyd shares natural resources in common with adjacent communities; therefore, the *Comprehensive Plan* recommends that the Town consider forming an inter-municipal council with the neighboring communities, especially Esopus and New Paltz.
- **Generic Environmental Impact Statements** A GEIS enables towns to plan for development at a broader scale than is possible with traditional site-by-site environmental impact statements. In the GEIS process, the Town can address the shortcomings of reviews done at too small of a scale, as previously discussed. This is accomplished by conducting an overarching impact assessment on a large area—ideally an entire natural system or large tract of undeveloped land—before development proposals are submitted. As individual development projects are proposed within this area, they are evaluated against the findings of the GEIS. If biodiversity concerns are adequately assessed during preparation of the GEIS, it is possible to avoid wildlife declines and habitat fragmentation, which are often the cumulative result of individual, site-by-site reviews. Towns can recover the costs of the GEIS through a pro-rata fee assigned to each proposed development project.
- **Training Opportunities for Land Use Decision-Makers** Land use decision-makers including elected and appointed municipal officials, builders and developers, and community leaders can make use of a number of training opportunities. For example, the Glynwood Center and Pace University's Land Use Law Center conduct the Community Leadership Alliance (CLA) program, which focuses on innovative land

use planning and policy at town and inter-municipal scales. Some CLA sessions have contained biodiversity modules. WCS/MCA conducts municipal and inter-municipal training workshops that educate land use decision-makers about integrating biodiversity into the land use planning process. Hudsonia, in partnership with NYS DEC's Hudson River Estuary Program, conducts biodiversity assessment workshops within towns near the Hudson River estuary.

→ **Innovative Approaches to Density Yield Calculations** The *Comprehensive Plan* recommends that the Town revise density yield calculations in the Town's zoning regulations, to exclude wetlands, wetland buffers, steep slopes, flood zones, and other sensitive natural features *before* calculating yield. These areas are not buildable due to a combination of regulations and building hazard issues; therefore, they should not be included in the calculation of density yields. This method has been successfully applied in other communities of the region. By using this method, Lloyd will be better equipped to maintain its biodiversity, water quality, water quantity, public health, and overall community character.

→ **Native Species and Natural Landscaping.** Non-native plants can outcompete native species and degrade habitats. Some species may cause extensive ecological damage. New landscaping for projects reviewed by the Planning Board should make use of non-invasive native plants. The Town could also make information about native and invasive plants available at Town Hall and on the Town's website as an educational tool for local residents. While the existing landscape can be preserved through tools such as conservation subdivision design, new landscaping should also have a natural look to enhance and restore the Town's rural character. For instance, the design of drainage features, such as catch basins, swales, and collection ponds, should be treated as elements of the site's landscape plan and modeled upon the characteristics of naturally occurring ponds and streams found throughout the Town, as shown in the illustration below.



A stormwater management pond is landscaped to appear as if it is part of the natural landscape.

→ **Specific Tools for Integrating Biodiversity into Planning Processes**

WCS/MCA has developed a series of publications to bring conservation science and innovative land use policy directly to those who shape the Town's landscapes: municipal planners, elected and appointed officials, and other land use decision-makers. These publications are available in the Town Hall and should be referred to during the review of development proposals.

7.6 CULTURAL RESOURCES

Historic structures greatly contribute to the visual appearance and quality of life in Lloyd. The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) maintains a database of historic properties and cultural resources in the Town. The *Comprehensive Plan* recommends that OPRHP's inventory be verified and supplemented, if necessary. Some of these sites may be eligible for listing on the National Register of Historic Places. All of them have been identified as having historic value.

Structures built prior to 1850 that are of historic significance, as identified by the Town Historian, the Beautification Committee and OPRHP, should also be inventoried. To encourage historically sensitive rehabilitation of these properties, the Town should establish an Historic Preservation Committee to review development proposals that involve these structures. In addition, the *Comprehensive Plan* recommends that identified historic properties be eligible for expanded uses. Revising the Zoning to allow a wider range of uses might help to preserve historic structures and the Town's cultural heritage. These uses might include:

- Multi-family housing within an historic structure.
- Art and craft studios, art galleries, antique shops, rare book and coin or stamp shops.
- A bed-and-breakfast or a tourist guesthouse operation that would encourage protection of the structure as well as help the tourist industry.

As discussed previously, the Tax Act of 1986 provides incentives for the rehabilitation and restoration of old or historic buildings. To qualify for the historic tax credit, properties must be listed on the National Register for Historic Places or be a contributing element in a Historic District. While only one property is currently listed on the Register in Lloyd, several others are likely to be eligible. Making owners of historic properties aware of the tax

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credit may encourage them to list their properties and avail themselves of this program.

To preserve archaeological resources, information on potential archaeological sites in the Town should be carefully considered during SEQR reviews of proposed developments. Newly discovered archaeological sites should be filed with the State archaeological survey for inclusion in their database.

7.7 SCENIC RESOURCES

Although much of Lloyd is beautiful, certain areas have exceptional views or contain unique environmental features. In particular, views toward Illinois Mountain and to and from the Hudson River are the Town's most critical visual resources. A number of these significant scenic viewsheds have been identified on Map No. 3 (Reconnaissance) in the Town's Local Waterfront Revitalization Program. In addition, Lloyd's local roads greatly contribute to the Town's visual appearance and rural character.

The Town's scenic areas can be divided into two basic types of landscapes, the "picturesque" landscapes of ridges, valleys, and woodlands (including the Hudson River shoreline and bluffs), and the "working" landscapes of agricultural lands. To develop priorities for preserving scenic resources, including open spaces, views and other significant natural resources, the Town should develop an Open Space Plan as a component of this *Comprehensive Plan*. The Open Space Plan would identify significant scenic resources and detail appropriate policies for assuring their preservation and enhancement. Lands of conservation and/or recreational value should also be identified. These lands would include non-developable areas, such as wetlands, floodplains, or steep slopes, in addition to mature forests, significant wildlife habitats (as identified by WCS/MCA), prime agricultural lands, locally important tress, viewsheds and historic resources important to Lloyd's rural character. The open space inventory would identify areas where conservation subdivision design, as previously explained, could be used to create a greenway network throughout the Town.

Numerous studies have shown that proximity to scenic views greatly increases property values. Homes, hotels, and other businesses that have attractive views of mountains, lakes, trails and other scenic resources command premium prices. Lake shore properties, for instance, are so valuable they are often sold by the foot rather than by the acre, and the closer a house is to the shoreline, the higher its value compared with houses located inland just a short distance away. A study of property values near greenbelts in Boulder, Colorado found that the average value of property adjacent to the greenbelt

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was 32 percent higher than those 3,200 feet away.² The preservation and enhancement of scenic resources in Lloyd will maintain a high quality of life and maintain property values.

7.8 TREES, TOPSOIL AND TOPOGRAPHY

Existing vegetation, topsoil and the natural topography of the land should be preserved and safeguarded as much as possible. Clearing and regrading of land prior to seeking Planning Board approval for site plans or subdivisions can result in environmental degradation. To prevent this, the *Comprehensive Plan* recommends that the Zoning be amended to include a section on tree and topsoil removal, grading and excavating. This section would stipulate that any regrading of land and removal of trees or topsoil (with the exception of forestry management) requires site plan approval from the Planning Board. Minor improvement to property that did not cover an area more than three times that of the foundation of the new building or structure for which a building permit had been issued, or that did not exceed ¼ acre in area for which a building permit had not been issued, could be exempted from this requirement under certain conditions. These conditions would ensure the appropriate grade of slopes, sufficient depths of ponds or lakes to prevent stagnation during dry periods, and the preservation and use of topsoil removed during excavation.

The Town should also establish a tree protection law that is cognizant of individual property and environmental concerns, and create a replacement, supplementation and management plan for street trees and trees on Town property.

² For these and other studies, see Scenic America, "The Value of Nature and Scenery," Technical Information Series, Vol. 1 No. 3, 1992.