Open Ground: Effective Local Strategies for Protecting Natural Resources

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should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled." [21] At the inception of the modern period of land use controls, the Court stated: "While the meaning of constitutional guaranties never varies, the scope of their application must expand or contract to meet the new and different conditions which are constantly coming within the field of their operations. In a changing world, it is impossible that it should be otherwise." [22]

There were legal commentators who thought that the original zoning enabling acts and the *Euclid v. Ambler Realty* [23] decision gave local governments authority to protect the environment, as well as to build safe and efficient physical communities. It may be true that there is nothing truly new in law, but we have concluded that local initiatives to protect existing open ground, as practiced at the beginning of the 21st century, are fundamentally novel. This we learned as we found local governments in Washington State adopting extensive habitat protection laws, a community in Minnesota requiring natural resource management permits, a South Carolina local lighting regulation designed to protect loggerhead sea turtles, and a Wisconsin community adopting a comprehensive code to protect no fewer than nine separate, but ecologically interrelated, natural resources. This unprecedented trend toward the adoption of local environmental law is combined with innovative intermunicipal land use agreements, aggressive land acquisition programs, and integrated smart growth programs that promote development in appropriate places.

At the end of this part, there is synopsis of local environmental laws, organized as if it were a comprehensive set of local environmental regulations. It begins with conservation elements contained in the local comprehensive plan, then includes standards and requirements contained in traditional land use regulations such as zoning, subdivision, cluster, and site plan regulations. Following these are a number of special regulations that require environmental review of individual development projects, protect resources from erosion and sedimentation, manage stormwater, and protect natural resources such as aquifers, habitats, floodplains, ridgelines, viewsheds, steep slopes, trees and stands of timber, and wetlands and watercourses. We are aware of no one community that has adopted such a full set of regulations, but the synopsis demonstrates that the parts of a comprehensive approach to environmental regulation at the local level are there. Recent experience indicates that communities in some parts of the country are assembling those parts in a number of creative ways.

This book is organized in a similarly comprehensive fashion. It discusses local environmental regulation first; land acquisition programs second; smart growth initiatives—including intermunicipal cooperation—third; and ends with a discussion of the legal authority that localities possess and the legal limitations, such as regulatory takings, that force regulators to treat landowners and developers fairly. This organization suggests that there are five steps in the process of protecting open space and natural resources at the local level: planning, regulation, acquisition, avoiding litigation, and coordination. See Figure 1, listing the phases and techniques of local open space protection.

Land use regulation at the local level is marked by the tensions that exist between those who advocate development and those who lobby for conservation. These tensions lead to fractious debates over particular projects, disagreement about land policies and planning, and, too frequently, costly litigation where one side wins and the other loses. This book and, we believe, the experience of successful communities, urges those on both sides to take a more comprehensive approach and to advocate both development and conservation.

Let conservation lead the way. In your planning, identify the community's critical environmental resources. In your regulation and acquisition programs, carefully control the development that occurs on or near those resources so that their functions are protected. Avoid litigation by treating all landowners fairly, allowing economical uses of land or purchasing development rights of constrained land, or transferring those rights to appropriate development districts, and by providing incentives for landowners to develop mixed use, pedestrian-friendly projects in those districts. Work with neighboring municipalities to protect regional environmental resources that cannot be protected by the creative and dedicated actions of one community alone. This book is written for a new generation of local advocates, leaders, and professionals who, in this way, will continue the bold local experiment of developing quality communities while protecting critical open ground.

Synopsis of Local Environmental Laws

The following examples of local laws that protect natural resources are included in this part to give the reader an integrated and relatively brief overview of the local law provisions that can be used to protect the environment. Local environmental laws take a number of forms. They include environmental values expressed in local comprehensive plans,

zoning districts created to protect watershed areas, environmental standards contained in subdivision and site plan regulations, and stand-alone environmental laws adopted to protect particular natural resources such as ridgelines, wetlands, floodplains, stream banks, existing vegetative cover, and forests. The clear purposes of these laws are to control nonpoint source pollution and preserve natural resources from the adverse impacts of land development. This synopsis is followed by a chart that references nonregulatory techniques to protect open ground and urges local governments to balance conservation and growth strategies, while working to treat local landowners and the development community reasonably.

Comprehensive Planning

If a community wishes to adopt local laws that regulate the environment, it may create a legal basis for those regulations in its comprehensive plan. Local comprehensive plans in New York may identify and provide for the preservation of historic and cultural resources, natural resources, and sensitive environmental areas. [24] Because most states require that local land use regulations conform to the municipality's comprehensive plan, such provisions help sustain environmental regulations when they are challenged. [25] The following provisions from the plan of the town of Clinton in New York illustrate how a comprehensive plan can set the stage for environmental regulation:

Town of Clinton, New York: Master Plan [26]

Despite its location in close proximity to Poughkeepsie and the spreading urbanized area, Clinton retains large areas of agricultural and undeveloped land. The town contains a wide variety of natural resources of exceptional quality, including lakes, extensive wetlands, large wooded tracts, rural settings, and several creek basins. These and other natural features are considered amenities that attract development, but they can also place environmental constraints on actual construction.

§3.1 The town should discourage the development and encourage protection of 100-year floodplains, wetlands, surface waters, slopes over 15 percent, and ridgelines to ensure minimal disruption of their environmental function or scenic qualities.

§3.6 Important wildlife habitats and other significant environmental areas should be identified and protected.

§3.7 Measures to control erosion and sedimentation should be required during the development review process.

§3.9 A defined open space system should be part of every site plan proposal and, where possible, be linked to form continuous greenspace corridors. Natural corridors should be particularly encouraged along streambeds and wetlands to provide open space, wildlife habitat, and groundwater protection.

§8.1 The town should encourage high quality design and construction, with the retention of existing trees whenever possible and the extensive use of landscape elements that integrate new development with the surrounding area.

§8.8 The Planning Board should have the authority to mandate clustering as an effective means to reduce housing costs, limit access points, and provide additional recreation and open space.

Another approach to using the comprehensive plan to achieve environmental protection is found in Chapter 12 of the APA's *Growing Smart Legislative Guidebook*. It suggests that state planning statutes be amended to require local planning agencies to prepare an "environmental evaluation" in which it evaluates the environmental impacts of each element of the comprehensive plan before adoption. [27] An important component of the planning system in Georgia is the preparation of a 20-year comprehensive plan by each county and municipality which has several required elements including the preservation of natural and historic resources. [28]

Zoning

Local zoning ordinances may contain provisions that directly protect the environment. See, for example, the model state enabling statute recommended in Chapter 8 of the *Growing Smart Legislative Guidebook.* [29] It states that a zoning ordinance may regulate development that may affect views and scenic resources, drainage and stormwater runoff, soil erosion or sedimentation, the quality of air and water, critical and sensitive areas, and natural hazard areas, including floodplains. To the extent that language such as this exists in a state's zoning enabling act, local zoning ordinances can contain provisions that aim to protect environmental resources. One emerging zoning technique for protecting critical or sensitive environmental areas is to make the boundaries of a zoning district coterminous with the natural boundaries of such areas.

The zoning ordinance of the town of Hamden, Connecticut, contains the following language in its purposes clause:

> [P]romoting the health, safety, and general welfare of the community . . . minimizing public and private losses due to flood conditions . . . encouraging the most appropriate use of land throughout the town . . . protecting existing and potential public surface and ground drinking water supplies . . . and encouraging the development of housing opportunities for all citizens of the municipality consistent with soil types, terrain and infrastructure capacity and ensuring that proper provisions are made for soil erosion and sediment control. [30]

An example of a zoning district that follows the natural boundaries of an environmental resource can be found in the zoning ordinance of the town of Putnam Valley in New York, which contains the following language:

Town of Putnam Valley, New York [31]

Preservation District

A. Purpose and Intent

Land within the PD Districts is primarily used for permanent open space purposes, or very low density/intensity recreational purposes. The purpose and intent of the PD District is to: . . . [p]reserve, protect and enhance the value of natural resources in all respects including topographical and geological features, vegetation, wildlife, watersheds and wetlands, areas of scenic beauty, and other land and community resources whose retention is necessary for the continued maintenance of the quality of the environment, and to [d]iscourage development on land with ecologically important resources, land subject to flooding, areas with excessive slopes, or other land features that could, if not properly protected, endanger human life or property.

Overlay Zoning

Overlay zoning is a flexible zoning technique that allows a municipality to limit development in certain environmentally sensitive areas. An overlay zone is a mapped overlay district superimposed on one or more established zoning districts. An overlay zone supplements the underlying zoning standards with additional requirements that can be designed to protect the natural features in an important environmental area. A parcel within the overlay zone will thus be simultaneously subject to two sets of zoning regulations: the underlying and the overlay zoning requirements. Unique natural or aesthetic resource areas, such as a pine barren, wetland resource area, watershed, or tidal basin can be identified and protected.

The town of Putnam Valley has adopted a number of such overlay districts, among them a hillside management district which contains the following language:

Town of Putnam Valley, New York [32]

Hillside Management (HM) District

Purpose and Intent

(1) The purpose and intent of the Hillside Management (HM) District is to implement the programs and policies of the Master Plan, as they relate to protecting designated ridgelines and steeply sloped areas from erosion, and maintaining the natural character and amenity of hillsides and

ridgelines as a scenic resource of the town.

(2) In reviewing plans for development in hillside areas and along designated ridgelines, the Planning Board shall act to [e]nsure the attainment of the following objectives:

(a) The preservation of natural topographic features and appearances by means of land sculpturing so as to blend any man-made or manufactured slope into the natural topography;

(b) The retention of major natural topographic features, such as drainage swales, steep slopes, watershed areas, floodplains, view corridors and scenic vistas;

(c) The preservation and enhancement of prominent landmark features, such as natural rock outcroppings, prominent trees and plants, other areas of special natural beauty, and stone walls and structures;

(d) The utilization of clustered sites and buildings in areas with extreme topographical features so as to reduce grading alterations on slopes; and

(e) The preservation and introduction of plants so as to protect slopes from soil erosion and minimize the visual effects of grading and construction on hillside areas.

The *Growing Smart Legislative Guidebook* contains model state enabling acts that clearly authorize local governments to adopt and enforce environmental overlay zones. The first authorizes localities to adopt Critical and Sensitive Areas Overlay Districts for a variety of purposes, such as ensuring the quality of drinking water and water systems, conserving natural resources, preventing contamination of the natural environment, protecting wetland resources, and minimizing damage from floods, severe storms, and other hazards. This law allows local governments to issue conditional use permits in protected environmental areas and to impose mitigation conditions on specific types of land development that are required to obtain such permits. Mitigation measures may include changes in proposed alterations of the land such as filling, grading, and paving, and the imposition of best management practices, such as minimizing nonpoint source pollution through the use of detention ponds, vegetative buffers, and reduced road salting. [33]

A separate model statute authorizes localities to adopt ordinances creating mitigation programs to minimize the adverse effects of land uses

in critical and sensitive areas identified in a locality's comprehensive plan. This statute gives local land use agencies the authority to require land developers to provide environmental benefits to mitigate proportionately the adverse impacts of their developments on these sensitive environmental areas. Mitigation measures are defined in this model statute as "the act of creating critical and sensitive areas, of purchasing or obtaining such land that has been created by another, or of reserving such land that has been created by another." [34]

Incentive Zoning

Under state statutes in some states, local legislatures may allow developers to build at greater densities than allowed under zoning in exchange for public benefits such as the preservation of open space. The town of LaGrange in New York, for example, awards a 40% density bonus when a developer promises to preserve 80% of a site for farming purposes. [35] The New York statute also allows communities to receive cash payments in exchange for the zoning incentives awarded to a developer. This allows localities to use the cash to achieve the public benefit directly. The community is then able to purchase development rights, or conservation easements, on valuable open space land using the cash contributed by a developer who has been granted zoning incentives to build in an appropriate location that can absorb the development impacts. [36]

Subdivision Approvals

New York's subdivision regulations adopted by local legislatures in New York may require that environmental features be revealed in maps, plats, and drawings submitted for review. These regulations may also authorize the reviewing body to condition any approval on design and layout changes that are reasonably related to the prevention of environmental damage or to the preservation of natural resources nearby. [37]

The subdivision ordinance of the town of North Salem in New York illustrates how environmental features on land to be subdivided can be protected.

Town of North Salem, New York [38]

§200-16 Standards for Subdivision Plats

Subdivision plats, including related streets, drainage, parks, and other improvements and the provisions for water supply, sewage disposal and easements, shall be planned, designed and constructed in accordance with the standards hereinafter specified, including the following:

§200-21 Natural Features

The planning and design of the [subdivision] plat, including related streets, drainage and other improvements, shall provide for preservation of significant natural features of the tract as follows:

A. By avoiding cuts or fills which result in potential soil erosion and excessive tree removal or which disturb water resources.

B. By avoiding construction which results in relocation of or encroachment upon watercourses and water bodies;

C. By avoiding filling or excavation of or encroachment upon wetlands, floodplains and other land subject to potential flooding.

D. By avoiding removal of large isolated trees and mature woods and other desirable vegetation and removal of stone walls.

E. By providing for preservation of wetlands, watercourses and water bodies and for the protection thereof by easement, reservation area or other controls to prevent excavation, filling or encroachment.

F. By avoiding rock excavation by blasting which may cause unintended damage or injury to property or persons in the vicinity.

State law in Washington provides that a subdivision plat shall not be approved unless the local review agency finds that "appropriate provisions are made for . . . open spaces, drainage ways, . . . potable water supplies, sanitary wastes, parks and recreation, playgrounds, ..." [39] New Jersey's subdivision statute requires that local subdivision ordinances contain requirements for water supply, drainage, shade trees, and "open space to be set aside for use and benefit of the residents of the planned

development." [40] Several states, including New York, provide aggressive authority to local approval boards to require on-site open space or recreational set-asides to serve the needs of the occupants of new residential developments.

Site Plan Approvals

In New York, delegated authority to adopt site plan regulations allows localities to require that all site plans show "screening, signs, landscaping, architectural features, location and dimensions of buildings, adjacent land uses and physical features meant to protect adjacent land uses as well as any additional elements specified by the [local legislative body] . . . ." [41]

The site plan regulations of the town of Somers contain the following provisions:

Town of Somers, New York [42]

§144-8 Standards for site plan approval

In acting on site plan applications, the Planning Board shall take into consideration the objectives of this chapter; the objectives, policies and recommendations of the Town of Somers Town Comprehensive Master Plan . . .; the protection of environmentally sensitive lands; and the aesthetic impact on the neighborhood. The Planning Board may require such modifications, conditions and safeguards so as to bring the proposed development into compliance with the intent of these regulations. The Planning Board shall specifically take into account the following: . . .

A. The protection of environmental quality.

(1) Buffer areas, plantings, open spaces, walls and/or fences shall be provided as determined appropriate by the Planning Board and in accordance with other requirements of the Code of the Town of Somers so as to ensure harmony with adjacent development and land, to screen parking areas and to conceal storage and utility areas.

(2) Adequate storm and surface water drainage

facilities shall be provided so as to properly drain the site, detain stormwater as necessary, minimize downstream flooding and address non-point pollution.

The model site plan statute proposed by the *Growing Smart Legislative Guidebook*, Chapter 8, specifies that local site plan ordinances shall include standards that include the preservation of natural resources on the site, including topography, vegetation, floodplains, marshes, and watercourses. Some state statutes such as Rhode Island's limit local site plan review to on-site considerations only. [43] Connecticut law allows site plans to be modified or disapproved if they fail to comply with the requirements set forth in the zoning ordinance or the local wetlands agency's regulations. [44] Under Connecticut law, site plans are reviewed by the zoning commission, which must take the report of the local inland wetlands commission into consideration when making its decision.

Clustering

Local legislatures in many states are allowed to authorize their planning boards to waive zoning standards such as minimum lot sizes, height requirements, and setbacks to "preserve the natural and scenic qualities of open lands." [45] The Bedford, New York, town board authorized its planning board to use clustering to preserve "a unique or significant natural feature of the site, including but not limited to a vegetative feature, wildlife habitat, surface water supply, underground aquifer, endangered species, rock formation, and steep slopes" and to protect "a unique or significant feature of the man-made environment of the site, including but not limited to a building, structure, or artifact of architectural, historical, or archeological value." [46] The town of Stanford, New York, permits residential developments to be clustered to protect agricultural soils, to preserve farming, and to maintain its rural way of life. [47]

Aquifer Protection

Using their municipal home rule authority to protect the physical environment, New York communities can adopt aquifer protection laws that restrict nonpoint source pollution resulting from land development as

well as chemical-intensive operations that could contaminate water stored in aquifers. The town of Bedford has adopted an Aquifer Protection Zone to prevent groundwater contamination. Within that zone, a variety of uses is permitted but only after securing a special permit. Among these are on-site sewage disposal systems, common septic fields, the handling and storage of road salt and deicing materials, and groundwater heat pumps. In its aquifer protection zone, the Bedford ordinance prohibits other uses, including the disposal of hazardous materials or solid waste, the storage of hazardous materials, dry cleaning or dyeing establishments, printing and photo processing establishments, and the disposal of septic sludge. [48]

The aquifer protection ordinance of the town of Wallingford, Connecticut, prohibits certain land uses. These prohibited uses include establishments using hazardous chemicals as an integral or principal part of the operation of their business, solid waste disposal, junk yards, septage lagoons, hazard waste drum storage areas, bulk storage piles, surface impoundments, road salt storage, pipelines for transmission of oil, gasoline or other hazardous materials. Other uses are allowed but restricted, such as above ground chemical and fuel storage, underground fuel storage, dry cleaning and new or enlarged manure, fertilizer, pesticide, and herbicide storage sites. [49]

Environmental Impact Review Requirements

In some states, local governments are required to conduct environmental reviews prior to the adoption of their comprehensive plans and land use regulations. Some of these states also require that the environmental impact of significant land development proposals be reviewed by local agencies before they are approved. The states requiring this separate level of review include California, Hawaii, Massachusetts, Minnesota, New York, and Washington. The California and New York statutes require local land use agencies to consider alternatives to proposed projects and to consider and impose mitigation conditions on the development to protect the environment on and around the affected site. For states that do not have such requirements, the *Growing Smart Legislative Guidebook* recommends that local planning agencies be required to conduct an "environmental evaluation" in which they consider and evaluate the environmental impacts of their comprehensive plans before the plans are adopted officially. [50] In South Carolina, local governments

may adopt local laws that require impact reviews of locally reviewed projects before they are approved.

Erosion and Sediment Control

Local laws can be adopted to require the implementation of erosion and sediment control mechanisms, including the reservation of buffers along waterways, the maintenance of indigenous vegetation, and the nondisturbance of natural contours in the land. New Haven, Connecticut, has adopted erosion and sediment control regulations which contain the following provisions:

Town of New Haven, Connecticut [51]

Purpose: The purpose of soil erosion and sediment control is to minimize land form change that occurs as a result of development; to preserve the nature of a site . . .; and to conserve and protect the water, land, air, and other environmental resources of the City.

Activities requiring an approved Soil Erosion and Sediment Control plan (SESC): A SESC Plan shall be submitted with an application for development when: the site of such development is one-half acre or more, unless exempted in Section 4 of these regulations, or when in the course of development more than 30% of the total lot area will be regraded by more than two feet; or when more than 800 cubic yards of soil and rock will be removed or added.

Fish and Wildlife Habitat

Adding protective provisions to subdivision or site plan regulations or adopting a separate local habitat protection law can achieve habitat conservation for threatened species or be used to maintain biodiversity at the local level. The following provisions are from a local law adopted by the City of Tumwater in the State of Washington.

City of Tumwater, Washington [52]

§16.32.050 Habitats Defined and Protected

The following habitats are defined and protected:

A. Areas with which endangered, threatened, and sensitive species have a primary association;
B. Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish and wildlife habitats; and
C. Lakes, ponds, streams, and rivers planted with game fish.

§16.32.060 Habitat Areas – Buffers

To retain and protect adequate urban wildlife habitats, buffers will be established on a case-by-case basis to be defined by a habitat protection plan.

§16.32.090 Habitat Areas – Protection Plan

When a protected habitat is located on a site to be developed, a Habitat Protection Plan will be submitted by the permit applicant. The Habitat Protection Plan shall contain the following:

1. A report including:
A. A description of the nature, density, and intensity of the proposed development in sufficient detail to allow analysis of such land use change upon the protected fish or wildlife habitat; . . . and
B. A plan by the applicant which shall explain how he will mitigate any adverse impacts to protected fish or wildlife habitats created by the proposed development.

Floodplains

Development activities can destroy floodplains, decrease flood storage, increase runoff, and decrease water quality and quantity. Local floodplain regulations can limit the extension of buildings and infrastructure into the flood areas, require that such buildings be built at cer-

tain elevations, prevent the obstruction of stream channels, and prohibit the construction of chemical or other hazardous storage facilities. The Floodplain Protection District ordinance of the town of Penfield, New York, contains such provisions:

Town of Penfield, New York [53]

§3-14 Environmental Protection Overlay District—Floodplain Protection District

A. Purpose

It is hereby found and declared that the unmanaged use of property, the alteration of topography, and excessive filling, channel encroachment or other acts that affect the natural discharge of water through floodplains constitute a threat to the health, safety, and general welfare of the inhabitants of the Town of Penfield and to the economic vitality of the community. The purposes of this section are to . . . prevent loss of property and potential loss of life in the flood prone areas; to preserve the water quality; to minimize expenditures for relief, insurance and flood control projects; and to limit building and development within the areas of special flood hazard . . . .

B. Development Standards/Permit Conditions

General Standards. No permit shall be granted for a regulated activity within any of the Floodplain Protection Districts unless the applicant submits a plan certified by a registered professional engineer, which plan shall contain evidence that: the structure will be constructed with its lowest floor elevated to at least one (1) foot above the base flood level; the structure will not affect the efficiency or the capacity of the floodway, or increased flood heights; the structure will be placed on the site so as not to cause increased velocities or obstruct or otherwise catch or collect debris which will obstruct flow under flood conditions; and that the structure shall be firmly anchored to prevent flotation, collapse or lateral movement which may result in damage to other structures, restrictions of bridge openings and other narrowings of the watercourse.

Ridgeline Protection

Local laws have been adopted to regulate ridgeline or hilltop development which has the potential to create a silhouette or other substantially adverse impact when viewed from a common public viewing area. Ridgelines are valuable for their scenic and ecological qualities. Surface runoff from ridgeline development can contaminate rivers and streams that supply drinking water downstream. Development of septic systems can cause contamination on lower lying properties. Buildings can disrupt wildlife corridors and critical habitats. Ridgeline regulations can require that the development on ridgelines blend in with the natural environment and be buffered to preserve particularly valuable viewsheds in the community. The town of Clinton, New York, has adopted the following provisions:

Town of Clinton, New York [54]

§2.5 Purpose:

High ridgelines are found throughout the town but primarily are located in the northern districts designated as AR5 and C. These ridgelines and hilltops are exceptional aesthetic and ecological resources, visible from many perspectives and distances, and typify Clinton's rolling, often rugged, rural topography. The Ridgeline Protection Overlay Area includes lands that are 500 feet or more above sea level. Ensuring that tree lines are uninterrupted, ridge tops are free from man-made structures, and new structures are compatible with surroundings in these overlay areas, will prevent the degradation of the rural, historic character and beauty of the Town. Building permit and special permit applicants are encouraged to: 1) site projects off of ridge tops and hilltops, out of sight lines from valleys, and below tree canopies in Ridgeline Protection Overlay Areas, and 2) build structures that are compatible in height and design with other buildings and the surrounding environment in Scenic and Historic Protection Overlay Areas.

Scenic Resources

Scenic resources include open views, country roads, panoramic landscapes, tree-lined streets, stone walls, and agricultural scenes. Local efforts to preserve scenic resources include regulating road construction and maintenance, land clearing, architecture, and the placement of utility lines and signage. Other requirements such as the maintenance of vegetative buffers, street trees, and other vegetation may be included to minimize the impact of development. The town of Somers in New York has adopted the following provisions to protect specified scenic resources:

Town of Somers, New York [55]

§138-5 Types of scenic resources.
The Town Board of the Town of Somers hereby recognizes, identifies and creates the following types of scenic resources and designates them as worthy of protection: roadways, slopes, ridgelines, open fields and meadows, water's edge, cultural places, and trees and stands of trees.

§138-8 Designation criteria.
A. General characteristics. A scenic resource shall be found to possess one (1) or more of the following general characteristics: Illustrative of a natural landscape feature, geologic feature representing the natural character and history of the town; and possessing a unique overall quality of scenic beauty, scale, texture and form.
B. Specific characteristics. A scenic resource shall be found to have one or more of the following specific characteristics:

(1) Slopes: A rise in elevation providing a focal point of a vista or elements of a panoramic view. An elevation which because of steepness, geologic structure, water flow or vegetation is aesthetically pleasing.
(2) Open fields and meadows: A large open area where the predominant vegetation consists of herbaceous growth and shrubs that provide unique and distinct landscape scenery significantly different from the predominant wooded landscape of the town. The open

field or meadow provides a visual link to the agricultural history of the town. The open field provides an important visual focus for stands of trees, stone walls or fences.
(3) Water's edge: Reservoirs, ponds, lakes and permanently running streams and brooks that are focal points or vistas or are elements of a panoramic view. The reservoir, pond, lake or permanently running stream or brook provides a reflective or aesthetically scenic view.

Steep Slope Protection

Steep slopes usually are associated with other environmental features such as rock outcrops, shallow soils, bedrock fractures, and groundwater seeps. Excavations or building construction may promote instability by loading the slope, removing vital support, and increasing pore-water pressures. Grading, cutting, and filling may also compromise the stability of some slopes. Activities such as agriculture, road and railway construction, house building, and land drainage should be regulated to protect steep slopes. The following provisions are contained in the steep slope ordinance of the town of Cortlandt, New York.

Town of Cortlandt, New York [56]

§259-1 Purpose
The purpose of this chapter is to establish regulations that prevent improper alteration of steep slopes. The intent is not to restrict general development in the town, but to guide land use proposals into areas where they best enhance these natural resources and preserve the visual character of land.

§259-6 Standards for Approval
In denying, granting or granting with modifications any application for a permit, the approval authority shall consider the consistency of the proposed activity with

the findings set forth in §259-2 of this chapter and the following standards: Alterations of trees and forest and topographical alterations on steep slopes shall conform with any applicable regulation of the Town of Cortlandt.

Stormwater Management

Stormwater management is the process of controlling and cleansing the excess runoff so that it does not harm natural resources or human health. As more land becomes covered with impermeable surfaces, such as roads, parking lots, and buildings, there is less surface area available for stormwater to infiltrate. Where storm basins do not exist or are not adequate, stormwater finds its way to the nearest water body. Impervious surfaces such as buildings, roads, and parking areas not only increase the volume and velocity of runoff but also prevent the natural processing of nutrients, sediments, and other contaminants. Regulation of stormwater runoff through stormwater management improves control of floods, reduces erosion and sedimentation, and aids groundwater replenishment. The town of Lowville in New York adopted the following stormwater management provisions:

Town of Lowville, New York [57]

§186-3 Objectives
In order to protect, maintain and enhance both the immediate and the long-term health, safety and general welfare of the citizens of the Town of Lowville, this chapter has the following objectives: Prevent increases in the magnitude and frequency of stormwater runoff so as to prevent an increase in flood flows and in the hazards and costs associated with flooding. Prevent decreases in groundwater recharge and stream base flow so as to maintain aquatic life, assimilative capacity and potential water supplies.

§186-7 Applicability
Stormwater management and erosion control plans should be prepared and reviewed for all land development projects

and construction activities when it is determined that stormwater runoff and/or erosion will have a significant effect on the environment. It has been established that land cleaning, land grading or earthmoving activities can have a significant effect on the environment, therefore, no person, corporation, organization or public agency may, on or after the effective date of the chapter: Initiate any land clearing, land grading or earthmoving activities without first preparing a stormwater management and erosion control plan and obtaining approval of said plan from the Town of Lowville.

Timber Harvesting Regulation

The regulation of timber harvesting may help to maintain an ecological balance while still meeting the present and future demands for lumber and pulp. Local harvesting regulations consider many factors, including the successional role of species regeneration, the effect of competing vegetation, and potentially damaging agents such as insects and pathogens. Access roads, location of processing centers, and areas near streams are also important factors to consider and regulate. These provisions were adopted by the town of Pawling, New York, as part of its timber harvesting law:

Town of Pawling, New York [58]

§45-21 Title and Purpose
It is the purpose of this Chapter to protect the public health, safety, and welfare of the residents of the Town of Pawling by regulating tree clearing and timber harvesting, so as to prevent problems related to erosion, sedimentation, and/or drainage. In relation to this purpose, this Chapter is intended to: Protect people and properties from the adverse effects that can be associated with improper timber harvesting, such as: increased runoff, erosion, and sediment; increased threat to life and property from flooding or stormwaters; and increased slope instability and hazards from landslides and slumping.

§45-9 Permit Standards

A. In granting a permit under this Chapter, the standards and considerations taken into account shall include, at a minimum, the following:

Stream Crossings: Every effort shall be made to protect the integrity and quality of all continuously flowing streams. For maximum stream protection, the following practices shall be adhered to: Cross all streams by the most direct route. Choose crossing sites that have low, stable banks, a firm stream bottom, and gentle slopes along the approaches. Avoid crossing at bends or pools. Cross at a few carefully chosen places rather than any place that seems convenient. Use temporary culverts, bridges, or other erosion control devices where stream bottoms or banks would otherwise be damaged and remove structures after use. Never skid logs or conduct any other logging activities through any stream with running water.

Harvesting Timber Adjacent to Streams or Water Bodies: For slopes up to 10% keep skidders back at least 50 feet from the stream bank and winch off any logs that lie closer to the bank in order to prevent soil disturbance which could start erosion. For slopes over 10%, keep skidders back at least 100 feet; except when doing so will cause greater erosion problems. Directionally fell trees so that the tops land away from streams. Remove any logging debris that gets into a flowing stream so stream flow is not affected. Leave a 50-foot wide buffer strip along both sides of flowing streams, ponds and marshes in order to keep the water shaded and to prevent thermal stress by direct exposure to sunlight.

Transfer of Development Rights (TDR)

The TDR is a *process by which development rights are transferred from one lot, parcel, or area of land in a sending district to another lot, parcel, or area of land in one or more receiving districts.* [59] A "sending" area is an

area where land conservation is sought and a *receiving* area is one where development is desired and can be accommodated. The purpose of a TDR program is to allow communities to develop in a more economical and efficient manner. TDR programs can be used to conserve natural resources, scenic views, and open lands by designating areas containing such resources as sending areas.

A comprehensive plan in the Long Island Pine Barrens allocates development credits to parcels in the fragile pine barrens aquifer, based on their development yield under local zoning, and greatly restricts development in these *sending districts.* The plan establishes receiving districts into which these development credits may be transferred. Developers who own land in these receiving districts may purchase credits from landowners in sending districts. Each purchased credit allows the developer to build one additional housing unit over that permitted by the receiving district's zoning.

Section §6940 of the code of the city of Falmouth, Massachusetts, contains these TDR provisions:

> Eligibility: Any lot or lots shown on a plan endorsed by the Planning Board and duly recorded at the Registry of Deeds as of April 1, 1985 shall be eligible for a Special Permit to transfer a portion or all of the development rights on said lot or lots (donor lots) to a different location and different zoning district (receiving lots) to be included as part of a subdivision requiring approval of the Subdivision Control Law, provided that the following requirements are met:
>
> > Each donor lot or portion thereof complies, in all respects, with the minimum requirements for obtaining a Building Permit by right and is, in the opinion of the Planning Board, potentially a subdivided lot of land given minimum zoning requirements, subdivision regulations and other pertinent regulations; the locus of the receiving district contains at least five acres in an RA, RB, RC, AGA, or AGB zone, and ten acres, in an AGAA or RAA zone and two acres in a Business or LIA zone. The owner or owners of the donor lot(s) record at the Registry of Deeds a covenant running in favor of the Town of Falmouth, prohibiting the construction or placement of any structure on said donor lot(s). Donor lots also include all land within mapped recharge areas of coastal ponds and public drinking water supplies within the Town of Falmouth referred to in Section 5341 of the Zoning By-laws. [60]

Tree Preservation

Tree preservation ordinances typically establish a permit system under which tree removal is allowed but only upon a showing of necessity and compliance with certain conditions such as the replacement of some or all of the trees to be removed. Provisions of tree preservation ordinances might include consideration of views, setbacks from curbs, sidewalks, and street intersections, pruning, and trimming. Provisions in the laws of the town of Cheshire, Connecticut, provide as follows:

Town of Cheshire, Connecticut[61]

In an effort to prevent erosion, to maintain the ecological balance, to provide for protection from the sun and wind, and to protect and enhance the general welfare, all mature trees should be retained on the site to the greatest extent possible; and all existing, mature vegetation on the site shall be retained in areas not disturbed by construction. In areas which are disturbed, or where vegetation is sparse, specific and strict requirements are outlined for the planting of new material.

Wetlands and Watercourse Protection

Local wetland regulations restrict activities such as dredging and spoil disposal, road construction, grading and soil removal, timber harvesting, and placement of buildings and infrastructure on wetlands and their buffer areas. The municipal code of the town of Lewisboro, New York, contains these wetlands and watercourse protection provisions:

Town of Lewisboro, New York[62]:

A. Findings of Fact

(1) In their natural state, wetlands and watercourses are valuable natural resources and serve multiple functions, including: Protecting water resources by providing sources of surface water, recharging groundwater and aquifers, serving as chemical and biological oxidation basins and/or functioning as settling basins for naturally occurring sedimentation; controlling flooding and stormwater runoff by storing or regulating natural flows; and providing unique vegetative associations specifically adapted for survival in low oxygen environments....

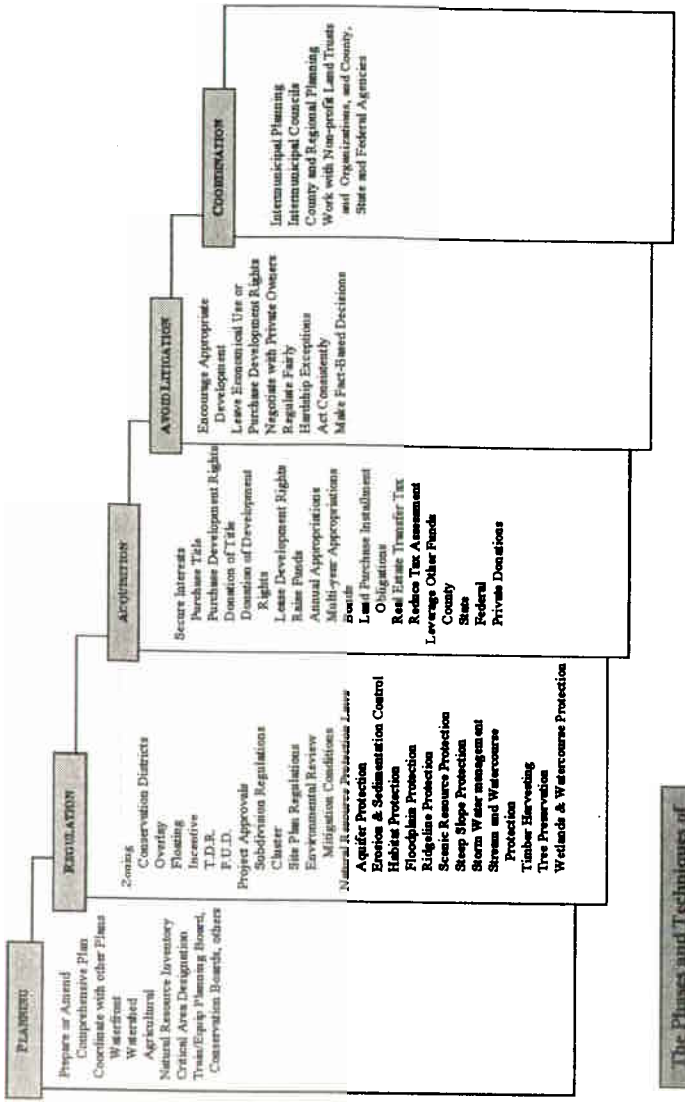
B. Intent

It is the intent of the Town of Lewisboro that activities in and around wetlands and watercourses conform to all applicable building codes, sediment control regulations and other regulations and that such activities not threaten public safety or the natural environment and implement the findings of fact set forth in Subsection A or cause a nuisance.

Regulated Activities:

(1) Placement or construction of any structure, driveway, or roadway;....

(2) Introduction of any form of pollution, including but not limited to the installation of a septic tank or fields, the running of a sewer outfall, or the discharging of sewage treatment effluent or other liquid wastes into, or so as to drain into, a wetland or watercourse.



The Phases and Techniques of Local Open Space Protection

PART ONE ENDNOTES

1. TOWN OF PAWLING, N.Y., CODE §215.3.
2. 30 N.Y.2d 359, 2 ELR 20296 (N.Y. 1972).
3. *Id.* at 372, 2 ELR at 20297.
4. *See* National Flood Insurance Act of 1968, 42 U.S.C. §§4001 et seq. *See also* FEDERAL INTERAGENCY FLOODPLAIN MANAGEMENT TASK FORCE, PROTECTING FLOODPLAIN RESOURCES: A GUIDEBOOK FOR COMMUNITIES 5 (1996).
5. 33 U.S.C. §§1251-1387, ELR STAT. FWPCA §§101-607.
6. 16 U.S.C. §§1451-1465, ELR STAT. CZMA §§302-319.
7. *Id.* §§1271-1287.
8. *Id.* §§1531-1544, ELR STAT. ESA §§2-18.
9. 122 S. Ct. 1465, 32 ELR 20627 (2002).
10. *Id.* at 1471, 32 ELR at 20627.
11. N.Y. TOWN LAW §263; N.Y. VILLAGE LAW §7-704.
12. CONN. GEN. STAT. ch. 124, §8-2.
13. N.Y. TOWN LAW §272-a(2)(b); N.Y. VILLAGE LAW §7-222(2)(b); N.Y. GEN. CITY LAW §28-a(3)(b).
14. N.Y. TOWN LAW §272-a; N.Y. VILLAGE LAW §7-222; N.Y. GEN. CITY LAW §28-a.
15. N.Y. GEN. CITY LAW §27-a(2); N.Y. TOWN LAW §274-a(2); N.Y. VILLAGE LAW §7-725-a(2).
16. N.Y. GEN. MUN. LAW §§96-b, 119aa-dd.
17. N.Y. MUN. HOME RULE LAW §10.1(ii)(a)(11).
18. *Id.* §51.
19. APA, GROWING SMART LEGISLATIVE GUIDEBOOK (2002) [hereinafter GROWING SMART].
20. 348 U.S. 26, 33 (1954).
21. *Id.*
22. Euclid v. Ambler Realty, 272 U.S. 365, 387 (1926).
23. 272 U.S. 365 (1926).
24. N.Y. TOWN LAW §272-a(3)(d); N.Y. VILLAGE LAW §7-722(4)(d); N.Y. GEN. CITY LAW §28-a(4)(d).