

CANANDAIGUA LAKE WATERSHED COUNCIL

LAND USE SUBCOMMITTEE

LOCAL LAWS PROJECT

FINAL REPORT

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**Genesee/Finger Lakes Regional Planning Council
Canandaigua Lake Watershed Council Land Use Subcommittee**

This report was prepared by Genesee/Finger Lakes Regional Planning Council (G/FLRPC) for the Canandaigua Lake Watershed Council, with the invaluable assistance of the Canandaigua Lake Watershed Council's Land Use Subcommittee. G/FLRPC would like to thank all who helped in producing this document, including:

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EXECUTIVE SUMMARY

Steep slopes and adjacent watercourses and wetlands in the Canandaigua Lake Watershed have been and are in jeopardy of being damaged and destroyed by filling, excavating, building, clearing and grading, and other such activities. Steep slopes and watercourses are not only environmental features that contribute to the unique character of the region, but overdevelopment or poorly designed development can endanger the public health, safety, and general welfare of the community. Municipalities in New York State have the power to adopt laws for the “protection and enhancement of its physical and visual environment.” These regulations can help balance the rights of the community as a whole and the rights of the individual property owner.

In the Canandaigua Lake Watershed, rising real estate values and increasing residential and recreational development pressures are leading to construction on increasingly challenging building sites. The unique geography of the Finger Lakes often creates a situation where the greatest pressures are on the most environmentally sensitive areas. Steep slopes, due to natural proximity to lakes and their ensuing views, and watercourses are highly-prized because of their scenic quality. However, development activities threaten the natural functions of steep slopes and watercourses which in turn can affect water quality.

To address this situation, the Canandaigua Lake Watershed Council created the Land Use Subcommittee consisting of planning and zoning officials from several of the watershed municipalities and the Ontario County Planning Department to review existing land use laws, identify possible water quality impacts, and make recommendations on possible changes and additions to the existing regulatory framework as it pertains to water quality. Three priority areas were identified by the Canandaigua Lake Watershed Council: steep slopes, stormwater management, and watercourses.

The project’s goal is to provide guidance to the Canandaigua Lake Watershed municipalities on steep slopes, stormwater management, and watercourse protection. This guidance takes the form of local laws from other municipalities (Appendix D: Steep Slope Law Examples and Appendix E: Watercourse Protection Law Examples) and perhaps, more importantly, model laws that have been reviewed by the Canandaigua Lake Watershed Council’s Land Use Subcommittee (Appendix B: Steep Slope Overlay Model, Appendix C: Watercourse Protection Model, Appendix F: New York State Stormwater Management, Erosion and Sediment Control Model Law, and Appendix G: City of Canandaigua Stormwater Management, Erosion and Sediment Control Ordinance). These model laws are being proposed to the watershed municipalities for their adaptation and/or adoption.

The local laws examined in this report that address development on steep slopes are overlay districts and stand-alone laws. An overlay district is created by the local legislature when a special resource has been identified and new provisions are adopted that apply within that area in addition to the provisions of the zoning law. A stand-alone law is separate from the zoning law and also protects specific environmental features. For example, a steep slope overlay zone may address design and construction techniques together with the underlying zoning classification while a steep slope law establishes a detailed permitting system for development affecting slopes

with a minimum usually beginning at 15% slope. For watercourse protection, a stream buffer system and zoning setback provisions are discussed. A stream buffer system specifies the size and management of the stream buffer and are a specific planning tool to protect stream quality and aquatic habitat. Incorporating setbacks into zoning law allows municipalities to prohibit development near watercourses. Finally, stormwater considerations are based on the New York State Model for Stormwater Management and Erosion & Sediment Control. Municipalities that have zoning, subdivision, and site plan approval can adopt sections of the model law while municipalities that do not have the three basic land use laws can adopt the model law as a stand-alone regulation. Municipalities in the watershed also have the ability to enhance the model law by changing its language to meet their community's stormwater objectives.

It should be noted that this report and the work of the Land Use Subcommittee is intended as recommendations to the Canandaigua Lake Watershed municipalities to assist in their decision-making authority. Municipalities should review this guidance document in their next steps towards water quality improvement and work together with the Canandaigua Lake Watershed Council. Thus municipalities can adopt—if they so choose—new or revised local laws to help protect their special environmental features such as steep slopes and watercourses and upgrade stormwater management at the local level to ultimately improve water quality in the Canandaigua Lake Watershed.

PROJECT BACKGROUND

The *Canandaigua Lake Watershed Council Land Use Subcommittee Local Laws Project* originated from concerns among the municipal members of the Canandaigua Lake Watershed Council in addition to the municipalities throughout the Canandaigua Lake Watershed. Development ranging from single parcels of land to subdivisions and other large-scale tracks have raised concerns about erosion, degradation of water resources, and long-term environmental damage.

The Land Use Subcommittee was created by the Canandaigua Lake Watershed Council in response to the various development pressures resonating throughout the Canandaigua Lake Watershed. Members of the Land Use Subcommittee consist of planning and zoning officials from several of the fourteen (14) Canandaigua Lake Watershed municipalities and the Ontario County Planning Department. They were tasked with the review of existing land use laws, the identification of possible water quality impacts, and to recommend improvements to the existing regulatory framework. Five (5) municipalities have participated regularly in the Land Use Subcommittee: the Towns of Canandaigua, Gorham, Italy, Middlesex, and South Bristol.

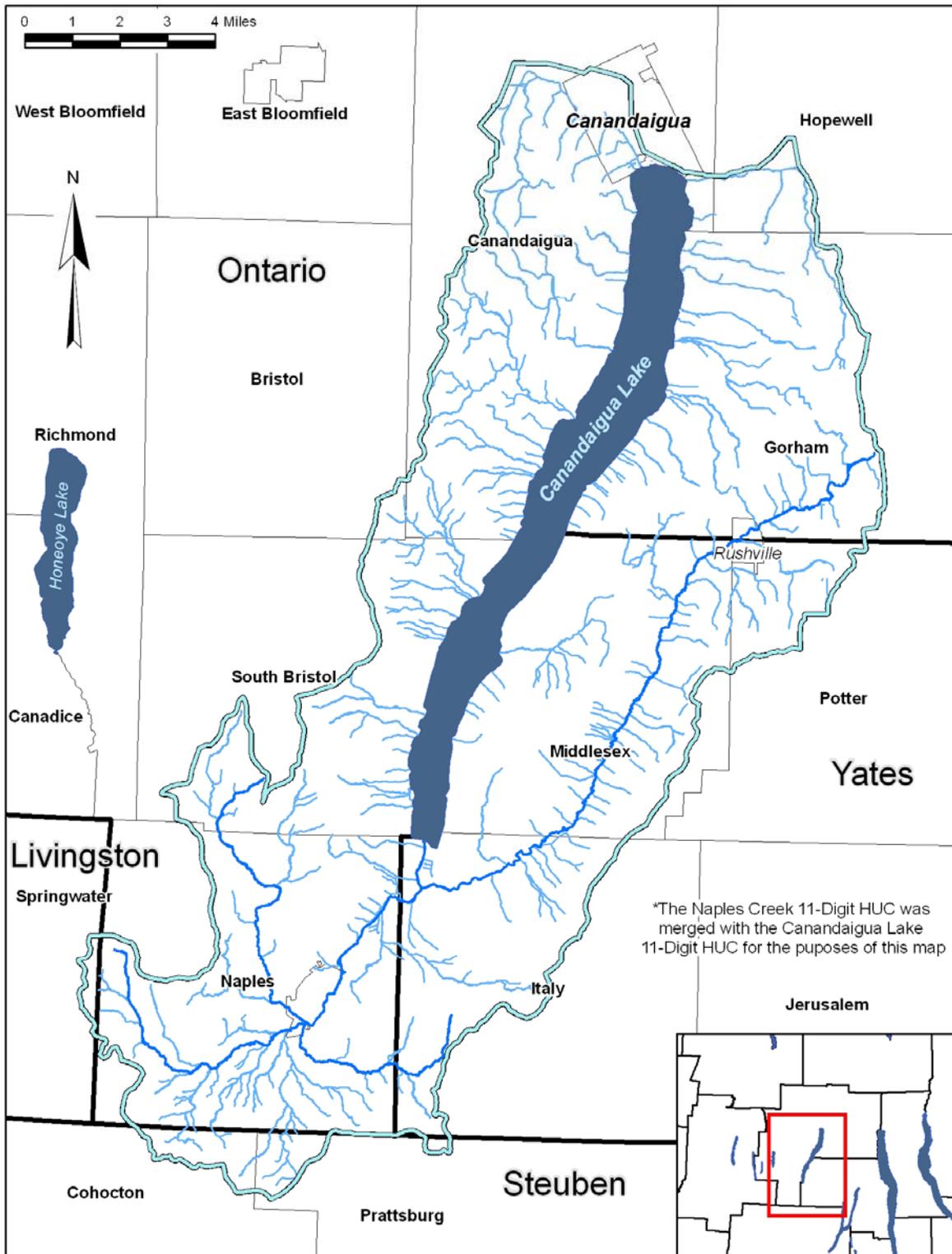
The Land Use Subcommittee used its first few meetings to list water quality issues and identify possible recommendations. The Ontario County Planning Department provided a comprehensive review of existing land use regulations. Canandaigua Lake Watershed Council staff provided a review of existing erosion and sediment control laws in the various municipalities. Based on this information, the Canandaigua Lake Watershed Council identified three areas of main concern for the Land Use Subcommittee to concentrate: steep slopes, stormwater management, and watercourses. The Canandaigua Lake Watershed Council obtained a grant through the Department of State to hire the Genesee/Finger Lakes Regional Planning Council (G/FLRPC) and assist the Land Use Subcommittee in recommending how to better manage and regulate development on and near steep slopes and watercourses. The Land Use Subcommittee and G/FLRPC used the following methods to generate recommendations for the protection of steep slopes and watercourses and stormwater management:

- research how municipalities around New York State and neighboring states have addressed the issues of steep slopes and watercourse protection,
- review the state model local law for stormwater management and erosion and sediment control and make any necessary changes, and;
- develop land use tools and models that municipalities in the Canandaigua Lake Watershed can adopt.

The goal of the Land Use Subcommittee and this report is to provide assistance and guidance to the Canandaigua Lake Watershed municipalities when balancing development and growth with the protection of critical environmental areas and water quality. Each municipality has the ultimate authority, however, in deciding whether to adopt one if any of the recommendations in this report. It's also important to note that the Land Use Subcommittee does not believe that absolute uniformity among the municipalities is necessary. The Land Use Subcommittee recognizes that differences exist among the watershed municipalities, which rationally precludes the adoption of an identical local law. The goal of the Land Use Subcommittee is to develop and

recommend a common framework for the watershed municipalities to work within the three focus areas: steep slopes, stormwater management, and watercourses. This report provides a suggested approach for the watershed municipalities when confronted with development pressures on steep slopes and near watercourses and its ensuing stormwater management. It also provides examples on how other communities manage their steep slopes, stormwater and erosion control, and watercourse protection.

Through the fall and winter of 2006-2007, G/FLRPC worked closely with the Land Use Subcommittee to research relevant land use tools that municipalities could use to address the issues regarding erosion control, degradation of water resources, and long-term environmental damage.



SECTION 1A: STEEP SLOPE OVERVIEW

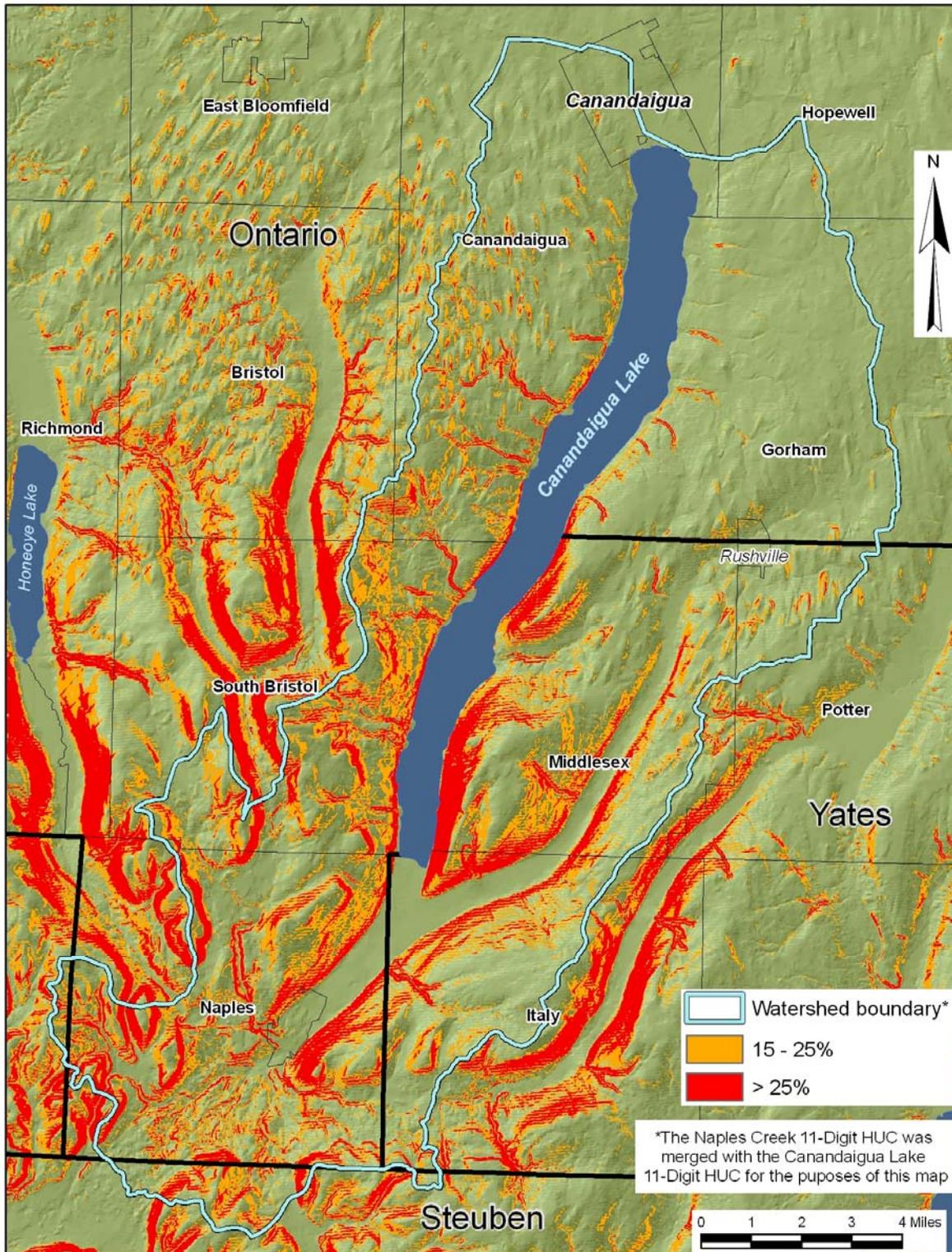
The unique geology of the Finger Lakes has been crucial to its human history. From the settlement patterns of Native Americans around sources of rock salt, to the modern patterns of forests, dairy farms, wineries, and recreational activities, the geological history of the Finger Lakes has profoundly affected where people have lived and what they have done on (and to) the land.

The Finger Lakes consist of eleven long, narrow, roughly parallel lakes, formed over the last two million years by glacial carving of old stream valleys oriented north-south. The southern ends have high walls, cut by steep gorges and gullies. The latest glacial episode was most extensive around 21,000 years ago, when glaciers covered almost the entire state. Around 19,000 years ago, the climate warmed, and the glacier began to retreat, disappearing entirely from New York for the last time around 11,000 years ago.

One of the geological features common to the Finger Lakes, especially towards their southern ends, are steep slopes. Many towns have significant areas of slopes over 25%. Historically, this challenging topography limited activities mostly to agricultural and forestry. “Developed” areas were in small villages or hamlets situated in the level valley floors. Recreational development in the Finger Lakes was focused on small, seasonal cottages.

Scenic and coastal areas across North America face the challenges of development and rising property values, and people seek other areas. This has led, in recent years, to the growth of tourism and recreational development in the Finger Lakes. Rising land prices have led to development pressures on sites that previously would not have been considered due to their challenging topography. In addition, new homes are often much larger and built for year-round occupancy, in contrast to the historical pattern in the Finger Lakes.

These development pressures—larger, year-round homes on challenging sites, with owners wealthy enough to utilize non-standard building or engineering practices—have led to concerns amongst citizens and their elected leaders. Increased construction on challenging sites such as steep slopes can quicken the natural erosion and sedimentation system. Erosion and sedimentation often include the loss of topsoil, which can result in the disturbance of habitats, the degradation of the quality of surface water, the alteration of drainage patterns, obstruction of drainage structures, and the intensification of flooding. Steep driveways can limit emergency access and exacerbate stormwater runoff on neighboring properties or public roads. Regulation of development on steep slopes mitigates damage to the natural and human environment and ultimately protects the public health, safety, and general welfare. Regulation allows the reasonable use of private property by encouraging flexible design of development in these critical areas.

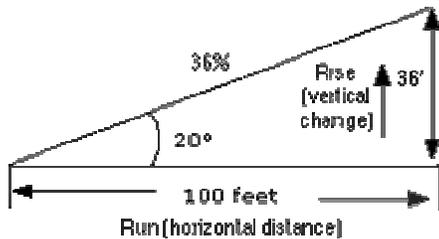


Slope

Slope is often measured in degrees or in percent rise. A flat region has zero slope. The steeper the surface, the higher the slope. Percent slope is defined as the change in elevation as measured over a 100-foot distance, sometimes called the rise over the run. For example, a one-foot vertical change over 100 feet of horizontal distance is a 1% slope. A rise of 36 feet over 100 feet is a 36% slope. Generally, slopes greater than 15% are considered steep.

Measuring slope as a percentage, and measuring slope as a ratio can be confusing. Many people speak about slope as percent slope, while others speak about it as degrees. These are very different numbers. For example, a 45 degree slope would be a 100 percent slope. For comparison, the maximum slope one would find on a mountain highway would probably be 10 percent or less, which is about 5.8 degrees. Service roads and fire roads in the forest are commonly 15 percent or less, which would be 8.5 degrees. A change of 1 foot elevation for every 4 feet traveled, or a 25 percent slope would be a pretty steep slope, but would be 14 degrees.

Figure 1. Degrees and percent slope



SECTION 1B: LAND USE TOOLS TO ADDRESS STEEP SLOPES

1. Steep Slope Overlay

The overlay zoning technique is a modification of the system of conventionally mapped zoning districts. An overlay zone applies a common set of standards to a designated area that may cut across several different conventional or ‘underlying’ zoning districts. The standards of the overlay zone apply in addition to those of the underlying zoning district. Some common examples of overlay zones are the flood zones administered by many communities under the National Flood Insurance Program, historic district overlay zones, areas of steep slopes, a waterfront zone, or an environmentally sensitive area.

For example, steep slope overlay zone regulations would address such matters as design and construction techniques (having all plans stamped by a licensed engineer, for example), greater municipal oversight (all development, even single family homes, go through the site plan review process, for example). These “overlay” requirements do not replace the underlying zoning district regulations, but are in addition to them, and would only apply in the overlay district corresponding to a defined and mapped geographical area of steep slopes in the municipality.

There are no specific procedures in the State zoning enabling statutes dealing with overlay zoning. Overlay requirements may be enacted or amended in the same manner as other zoning regulations.

Steep slope overlay districts have a direct benefit on the water quality of a watershed by imposing additional restrictions on the type of land use allowed within their boundaries. Depending on the environmental conditions, more than one overlay district may apply to a single area. The proposed development, and all necessary materials, must be brought before the proper reviewing agency before the issuance of a permit.

In a regional area with a common concern, such as the Canandaigua Lake Watershed, municipalities can coordinate their local laws, such as overlay districts. This helps provide consistency in protecting the steep slopes of the entire watershed, but also helps in raising the awareness and importance of this regulation for buildings and developers.

Steep Slope Overlay regulations are the proposed recommendation for dealing with steep slope development in the Canandaigua Lake Watershed (see Appendix B). These regulations are based on the Town of Bristol’s Steep Slope Law and were modified through a collaborative process with Genesee/Finger Lakes Regional Planning Council and the Canandaigua Lake Watershed Council’s Land Use Subcommittee. These regulations are formatted to be adopted as an amendment to existing zoning law, although with a few revisions, could be adopted as a stand-alone local law.

2. A stand-alone law addressing steep slopes

Municipalities can adopt laws separate from their zoning laws to protect specific environmental features and promote concrete environmental interests using their home rule authority and authority delegated to them under other state laws. A steep slope law would regulate development on areas with slopes greater than a specified percentage, usually in the 10-15% range.

As noted, Steep Slope Overlay regulations are the proposed recommendation for dealing with steep slope development in the Canandaigua Lake Watershed (see Appendix B). Although these regulations are formatted to be adopted as an amendment to existing zoning law, with a few revisions, they could be adopted as a stand-alone local law.

SECTION 1C: MUNICIPAL RECOMMENDATIONS

Five municipalities have participated regularly in the Land Use Subcommittee: the Towns of Canandaigua, Gorham, Italy, Middlesex, and South Bristol. Based on their input, as well as that of the Canandaigua Lake Watershed Council and Yates County Soil and Water Conservation District staff, the Steep Slope Overlay zoning amendment is the proposed recommendation to address development on steep slopes. All municipalities in the watershed are encouraged to utilize the model local law language developed.

Amending Zoning

Adapted from Section 265 of New York State Town Law

Zoning may from time to time be amended. Such amendment shall be effected by a simple majority vote of the town board, except that any such amendment shall require the approval of at least three-fourths of the members of the town board in the event such amendment is the subject of a written protest, presented to the town board and signed by:

(a) the owners of twenty percent or more of the area of land included in such proposed change; or

(b) the owners of twenty percent or more of the area of land immediately adjacent to that land included in such proposed change, extending one hundred feet therefrom; or

(c) the owners of twenty percent or more of the area of land directly opposite thereto, extending one hundred feet from the street frontage of such opposite land.

The provisions of Section 264 of New York State Town Law, relative to public hearings and official notice, shall apply equally to all proposed amendments.

Amendments made to any zoning ordinance (excluding any map incorporated therein) adopted pursuant to the provisions of this chapter shall be entered in the minutes of the town board; such minutes shall describe and refer to any map adopted in connection with such change, amendment or supplement and a copy, summary or abstract thereof (exclusive of any map incorporated therein) shall be published once in a newspaper published in the town, if any, or in such newspaper published in the county in which such town may be located having a circulation in such town, as the town board may designate, and affidavits of the publication thereof shall be filed with the town clerk. Such ordinance shall take effect upon filing in the office of the town clerk. Every town clerk shall maintain every map adopted in connection with a zoning ordinance or amendment.

SECTION 2A: WATERCOURSE PROTECTION OVERVIEW

As noted, the unique geology of the Finger Lakes has been crucial to its human history. In addition to steep slopes, a geological feature common throughout the Finger Lakes are streams, creeks, waterfalls, rivers, ponds, and lakes. These features, collectively known as “watercourses,” face the same development pressures that steep slopes do. Larger, year-round homes on challenging sites—with owners wealthy enough to utilize non-standard building or engineering practices—have led to concerns amongst citizens and their elected leaders. Increased construction on challenging sites can quicken the natural erosion and sedimentation system. This is especially true when working in close proximity to watercourses.

Watercourses and wetlands are in jeopardy of being damaged and destroyed by filling, excavating, building, clearing and grading, and other such acts inconsistent with the natural conditions of such areas. Land adjacent to watercourses is an environmentally sensitive area and valuable natural resource, which benefits the entire region. The environmental sensitivity of watercourses and adjacent land is due to their ability to restore and maintain the chemical, physical, and biological integrity of the water resources, reduce erosion and control sedimentation, stabilize stream banks, provide infiltration of stormwater runoff, provide tree canopy to shade streams and promote desirable aquatic organism, provide riparian (stream-side) and lacustrine (lake-side) wildlife habitat, and furnish scenic value and recreational opportunity.

A buffer for a stream system consists of a forested strip of land extending along both sides of a stream and its adjacent wetlands, floodplains, or slopes. The forest buffer width should be adjusted to include contiguous sensitive areas, such as steep slopes or erodible soils, where development or disturbance may adversely affect water quality, streams, wetlands, or other water bodies.

The width of forest buffers should be a minimum of one hundred feet. Depending on stream order, percent slope, 100-year floodplain, and presence of wetlands or other critical natural resources, the buffer may be wider.

The forest buffer shall be composed of three distinct zones, with each zone having its own set of specified uses and vegetative targets. The description of these zones comes from several governmental sources at the state and national level.

Zone 1 Streamside Zone

The function of the streamside zone is to protect the physical and ecological integrity of the stream ecosystem. The streamside zone begins at the edge of the stream bank of the active channel and extends a minimum of 25 feet from the top of the bank. Allowable uses within this zone are restricted to flood control structures, utility rights of way, footpaths, and road crossings. The vegetative target for the streamside zone is undisturbed native vegetation.

Zone 2 Middle Zone

The function of the middle zone is to protect key components of the stream and to provide distance between upland development and the streamside zone. The middle zone begins at the outer edge of the streamside zone and extends a minimum of 50 feet. Allowable uses within the middle zone are restricted to biking or hiking paths, stormwater management facilities, limited recreational uses, and limited tree clearing with approval. The vegetative target for the middle zone is mature native vegetation adapted to the region.

Zone 3 Outer Zone

The function of the outer zone is to prevent encroachment into the forest buffer and to filter runoff from residential and commercial development. The outer zone begins at the outward edge of the middle zone and provides a minimum width of 25 feet between Zone 2 and the nearest permanent structure. There should be no septic systems, permanent structures or impervious cover, with the exception of paths, within the outer zone. The vegetative target for the outer zone may vary, although the planting of native vegetation should be encouraged to increase the total width of the buffer.

The forest buffer, including wetlands and floodplains, should be managed to enhance and maximize the unique value of these resources. Management includes specific limitations on alteration of the natural conditions of these resources. The following practices and activities should be prohibited within the forest buffer:

1. Clearing of existing vegetation.
2. Soil disturbance by grading, stripping, or other practices.
3. Construction or placement of any permanent or semi-permanent structures
4. Filling or dumping.
5. Drainage by ditching, under drains, or other systems
6. Use, storage, or application of pesticides, except for the spot spraying of noxious weeds or non-native species consistent with recommendations of the New York State Department of Environmental Conservation.
7. Housing, grazing, or other maintenance of pets or livestock.
8. Storage or operation of motorized vehicles, except for maintenance and emergency use

Regulation of development near watercourses can help mitigate damage to the natural environment and human environment and ultimately protects the public health, safety, and general welfare. Regulation allows the reasonable use of private property by encouraging flexible design of development in these critical areas.

SECTION 2B: LAND USE TOOLS TO PROTECT WATERCOURSES

1. Incorporating setbacks into zoning area requirements

The forest buffer system as previously described represents the “ideal situation” and should be thought of as a “goal” to strive for in land use regulation. Not all municipalities, however, are in a position to mandate and enforce forest buffers to such detail, although the option is always available to them.

A simpler way to provide a *basic* level of watercourse protection is for municipalities to prohibit development near watercourses. This can be done by amending the existing zoning code. Virtually all zoning codes have what are referred to as ‘area requirements.’ These regulations stipulate where on a parcel a structure may be located. Typically, these requirements are expressed in terms of setbacks, or how far a building must be set back from the property line.

Area requirements can also be used to stipulate how far a building can be from a watercourse. For example, the zoning can require that all new structures to be set back 50 feet from the a watercourse. How a watercourse is defined and whether the 50 feet is measured from the centerline of the watercourse or the top of bank are also important details. However, the overall outcome of this technique is that water resource protection is achieved through a standard zoning tool.

As noted, a “simple” watercourse setback requirement can be enhanced by the additional requirements for a three zone based buffer as described above.

It is recommended that “defined watercourses” shall be those on the Ontario County GIS mapping system. Defining a water course based on how many months out of the year that it flows is subject to wide interpretation and is unenforceable. Each municipality should include defined watercourses on their official zoning maps. In addition, it is recommended that setbacks be measured from the “top of bank” rather than the “centerline.” In order to obtain a center line, you need to locate the top of each bank. Also, using center line measurements means that larger streams would have a smaller buffer area than smaller streams.

SECTION 2C: MUNICIPAL RECOMMENDATIONS

Five municipalities have participated regularly in the Land Use Subcommittee: the Towns of Canandaigua, Gorham, Italy, Middlesex, and South Bristol. Based on their input, as well as that of the Canandaigua Lake Watershed Council and Yates County Soil and Water Conservation District staff, the watercourse setback zoning amendment is the proposed recommendation to address development near watercourses. All municipalities in the watershed are encouraged to utilize the model local law language developed. See Section 1C of this report for notes on the zoning amendment process.

SECTION 3A: STORMWATER MANAGEMENT OVERVIEW

The Canandaigua Lake Watershed is experiencing significant residential growth and will continue to see growth well into the future. Land development activities and associated increases in site impervious cover often alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, and stream channel erosion. Stormwater runoff from development activities also contributes to increased quantities of various pollutants. The improper design, construction, and long term management of stormwater facilities will not adequately handle the changes in water quantity and quality resulting from these developments. Therefore, it is imperative that municipalities increase their level of oversight on development—ranging from single-lots to subdivisions and other large-scale sites.

SECTION 3B: STORMWATER MODEL LAW OVERVIEW

The State of New York recently adopted higher erosion and sediment control standards and specifications on developments greater than one acre in size. Once a development exceeds five (5) acres of disturbance, proper management of post-construction stormwater quantity and quality is mandated. Put more simply, a developer must control sediment from leaving the site during development activities so there is no visible contrast to the outlet waters. After construction is over and the development is complete, the developer and/or Home Owners Association must control the peak discharge of water to pre-development rates. They must also remove 80% of the suspended solids and 40% of the phosphorus from the site.

Several of the watershed municipalities have existing erosion and sediment control laws that regulate disturbances with a threshold of 10,000-15,000 square feet and 500 square feet within the lakefront district. Although this is a lower threshold than New York State, the specific standards are outdated and in some cases inadequate based on experience. New York State drafted a model local law for municipalities to adopt in order to update the standards.

The Land Use Subcommittee is recommending that the municipalities in the watershed utilize the state model law as a baseline and install land disturbance thresholds that fit its needs. The committee does recommend that at minimum municipalities use a 15,000 square foot threshold disturbance requiring a basic erosion and sediment control plan. As mentioned previously, some municipalities lower that threshold to 500 square feet near the lakeshore area.

The committee is also recommending that the municipalities amend the state model local law to include increased standards for post-construction phosphorus control. The state has drafted these increased standards in the Chapter 10 supplement to their water quality specifications for phosphorus limited lakes in the Catskills and lower Hudson valley area.

While Canandaigua Lake is a phosphorus-limited lake, water quality monitoring since 1996 has documented a distinct trend of increasing phosphorus levels. Minimizing new sources of pollution will help curb this upward trend in phosphorus loading. The law increases the upper threshold for water quality treatment of phosphorus from 0.8 inches to 2.2 inches of rain. The City of Canandaigua is in the process of adopting the revised state model law with these standards. Appendix G is the City of Canandaigua Stormwater Management, Erosion and Sediment Control Ordinance.

CONCLUSION

The municipalities of the Canandaigua Lake Watershed face serious challenges in the imminent future when it comes to balancing growth with the preservation of the very attributes that continue to attract residential and recreational development. The waterways and hillsides of Canandaigua Lake—intrinsic to all the Finger Lakes—are unique areas with important environmental, scenic, and economic value.

This report is a small part of the overall guidance and education process required to inform the visitors, residents, municipal staff, and elected leaders of the issues related to steep slope and watercourse protection and stormwater management. The land use regulatory tools provided in this report can help municipalities guide change in their environment in a way that is both conscientious of conservation values and development goals.