

Protecting the Character of the Lower Connecticut River

The Gateway Commission's Mission

Written by the Connecticut River Estuary Regional Planning Agency (CRERPA) for the Connecticut River Gateway Commission

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The Connecticut River mouth and Long Island Sound, looking south from Essex (C. Joyell, CRWC)

Introduction to the Connecticut River Valley

Winding its way south four hundred and ten miles from Vermont and New Hampshire to Long Island Sound, the Connecticut River is New England's longest and most celebrated River for its scenic, historic and particularly ecological merits. Its watershed encompasses over seven million acres and is home to countless species, including an estimated eight million people. The Connecticut River is the largest single contributor of freshwater to the estuary of Long Island Sound.

Since the early 1990's the River and its estuary have received no less than four designations for its outstanding biological resources. Nationally, it has been recognized through the United States Fish and Wildlife Service, which created its first refuge based on a river system (the Conte Refuge); the Clinton administration which designated it as a National Heritage River (one of only fourteen in the country); the Nature Conservancy which declared the estuary as a "Last Great Place", one of only forty in the northern hemisphere; and the Ramsar designation, which acknowledged the international importance of the estuary on par with similar globally important wetlands such as the Florida Everglades and Chesapeake Bay Estuary.



Lord Cove, an exemplary brackish tidal marsh, Lyme. (C. Joyell, CRWC)



Hamburg Cove and the mouth of the Eight Mile River, Lyme (C. Joyell, CRWC)

Threats and the Need to Plan and Manage for Livable Communities

Despite the attentions of multiple federal, state and local agencies, non-profits and private citizens, the lower River is not free from significant threats. Recreational overuse, watershed development, invasive non-native plant and animal species, water pollution, and even global climate change and impending sea-level rise all play a role in eroding the scenic and biologic resources of the river. In 1967, then Connecticut Senator Ribicoff quoted William Holly White, saying that “unless steps [are] taken to protect this resource [the Connecticut River] it could easily turn into a marine version of the Berlin Turnpike.”

The scenic beauty and biological intactness that has attracted the attention of multiple agencies and organizations has also attracted increasing numbers of residents and visitors to experience and enjoy the river resource. Ironically, in the 1970’s, when the Connecticut River was first proposed for a national park, a major contention of the citizenry of all four New England states bordering the river was that “the level of recreational activity proposed would destroy the very ecological values that the plan sought to protect.” Today, pressure increases to balance public and private access, increased boating activity, and commercial – including tourism – use of the river with the need to protect scenic and biologically crucial riparian areas, beaches, dunes and marshes.



Recreational boating is a popular River activity. (C. Joyell, CRWC)

Similarly, increasing numbers of individuals wish to live near and within view of the river, pressuring local river towns to balance preservation of scenic river vistas and the protection of vital forested upland watershed areas with economic growth and revenues. Large residential homes are appearing within the river view-shed, often resulting in significant openings in the wooded hillsides above and along side the river. In addition to the potential for added non-point water pollution reaching the river from septic systems and impervious surfaces, these building envelopes fragment the forested corridor along the river that is an important part of its biological significance.

Invasive plant and animal species, such as the common reed *Phragmites*, barberry, purple loosestrife, Asiatic clam, woolly adelgid and mute swan threaten to overtake and displace important habitats necessary to support both resident and migratory wildlife, as well as rare and endangered species. Development creates open areas in wooded terrain that can invite predatory edge species, such as cowbirds, crows and raccoons that pressure woodland species’ populations. Even the increasing density of domestic cats and dogs associated with housing developments can result in significant impacts to local wildlife populations.



The new American home is becoming increasingly larger each year.

In the 1960's the official state water quality classification of the Connecticut River was “*suitable for transportation of sewage and industrial waste.*” While we have come an extraordinary long way from this mindset, the Connecticut River is not free from water pollution. Although it looks clean and supports fisheries, recreation and even swimming, water pollution today is less visible – and perhaps therefore more insidious – taking the form of dissolved nitrogen, toxins and even pharmaceuticals that interrupt aquatic species’ life-cycles. Much of this comes from sewage treatment outflow and the runoff from our increasingly built landscape that transports excess landscaping fertilizers and herbicides and road surface toxins directly or indirectly into the river.

These collective threats translate into the increasing need to address sustainable growth and development of the lower Connecticut River region. The recognition of this area’s significance has not diminished; neither has the resolve to protect it.

The Gateway Commission A Regional Compact

*It is found that the lower Connecticut river and the towns abutting the river possess **unique scenic, ecological, scientific and historic value** contributing to public enjoyment, inspiration and scientific study, that it is in the public interest ... to preserve such values and to **prevent deterioration of the natural and traditional riverway scene** for the enjoyment of present and future generations of Connecticut citizens. (from section 25-102a of the Connecticut State Statutes)*

History

In 1965 a federal proposal from Congress sought to establish a National Recreation Area on the Connecticut River, from source to sea. It was conceived to “preserve natural beauty and provide outdoor recreation for public urban centers”, and included, among other things, the vision of creating new, large flood control reservoirs to enhance recreation along the river. Public opposition to this concept was loud and defiant, citing concerns about unmanageable traffic, sanitation and policing burdens to towns, in addition to already existing high levels of recreational activity on the river. Eight years after the concept was introduced, it was rejected by all four affected states.

Out of this proposal, however, one element survived, and that was the idea of protecting what had been designated the “Gateway Unit”, including parts of eight Connecticut towns surrounding the lower portion of the River. In 1973 the Connecticut General Assembly passed legislation allowing establishment of the “Gateway Commission”; a state-local compact for the protection of the lower river.

This plan subtracted the federal partner, and the recreational component, and instead created a local commission whose purpose was conservation: “to protect the scenic, historic and environmental resources of the lower river.” This vision included the protection of land within a conservation zone through acquisition of easements and development rights, and locally enacted zoning ordinances that “would shield the area from incompatible uses.” The boundaries of the area, to be known as the *Gateway Zone*, were determined by visibility from the river – from ridge top to ridge top — and encompassed some 30,000 acres and thirty miles linear distance up the river. The towns within the Gateway Zone overwhelmingly accepted this idea.

*The action of the Connecticut River Gateway Commission shall have the object of regulating the uses of such property consistent with the purposes of this chapter and promoting the protection and development for purposes of this chapter of such property by means of **classification of zoning districts according to types of land usage permitted therein, land coverage, frontage, setback, design and building height and by regulating the cutting of timber, burning of undergrowth, removing soil or other earth materials and dumping or storing refuse in a manner that would detract from the natural or traditional riverway scene, provided such action shall not discourage constructive development and uses of such property***

Mission

The Gateway Commission came to life on July 17, 1974, with a total of twenty-one members representing the eight towns of Chester, Deep River, East Haddam, Essex, Haddam, Lyme, Old Lyme and Old Saybrook as well as a representative from the Connecticut River Estuary Regional Planning Agency (CRERPA), the MidState Regional Planning Agency, and the Department of Environmental Protection.

The Commission is organized within the Connecticut General Statutes, chapter 477a, Sections 25-102a through 25-1021. The statues declare that the lower Connecticut River and the towns abutting the river possess “*unique scenic, ecological, scientific and historic value contributing to public enjoyment, inspiration and scientific study*” and charges the Commission with preventing “*deterioration of the natural and traditional river way scene for the enjoyment of present and future generations of Connecticut citizens.*”

The Gateway Commission has one primary responsibility: Scenic and ecological preservation of the Gateway area. It accomplishes this through land protection and the creation of zoning standards to be adopted and enforced by the participating towns in the Gateway Zone. More specifically, its duties include the following: creation, adoption and revision of minimum protective standards to be incorporated into each member town’s zoning regulations, plan of conservation and development and subdivision regulations for the Gateway Zone; review of any adoption, amendment or repeal of a member town’s zoning, subdivision or planning regulations affecting the Gateway Zone; review of applications to zoning boards of appeal for compatibility with Gateway standards; working with the Department of Environmental Protection to recommend and approve land acquisition projects within the Gateway Zone; and reporting to the General Assembly annually on activities and finances.

At the time of its establishment, the Gateway Commission was to be funded with state money for land acquisition and administration. In 1974, the Gateway Commission was the recipient of a monetary settlement creating the Connecticut River Gateway Conservation Fund. This fund is self-supporting, excluding administrative costs. Through the Gateway Commission, the Lower Connecticut River Valley Land Trust was created in 1986 as a 501(c)3 non-profit conservation organization, which may accept both land and private donations for the purposes of conservation. The Gateway Commission has played a role in successfully protecting over one thousand acres in the lower River through land acquisition grants to local conservation organizations as well as the Commission's direct acquisition of scenic easements, development rights and fee simple title.

The Commission meets once a month at the CRERPA office in the town of Old Saybrook, where all meetings are open to the public. Gateway members are all volunteers and serve two-year, renewable terms.



The Gateway Conservation Zone boundaries are from ridge top to ridge top, and encompass some 30,000 acres.

River Roundtables – 2002

Precipitated by controversy surrounding the permitting of private docks extending into the public waters of the river, the Gateway Commission in 2002 joined forces with other stakeholders in the lower River, including the Connecticut River Watershed Council, the Connecticut River Estuary Regional Planning Agency, the Connecticut Marine Trades Association, the Connecticut River Museum, representatives from the tourism and real estate industries, and state representative James Spallone to conduct a series of River Roundtables to engage the public in articulating issues facing the lower River.

A multi-partner steering committee designed a series of forums, appropriately referred to as “*Charting the Course*”, and solicited public input. Four workshops brought together the public and panels of professionals to consider the economic, scenic, biologic and recreational challenges to managing the river resources for sustainable growth. Nearly five hundred residents attended and participated in these forums. Many of the issues raised echoed similar concerns from nearly three decades ago: water quality, recreational boating conflicts and public access, the change in scenic character of the River caused by residential development and tree clearing, and invasive species.

One Approach – Revised Gateway Standards

The original Gateway zoning standards were created and adopted in 1974 by the Gateway Commission and incorporated into local zoning regulations in the eight Gateway towns, with additional minor revisions made in 1992. These minimum standards address development through recommended land coverage, frontage and setback from the river, design and building height and the regulation of timber cutting and burning of undergrowth. They also address the removal of soil or other earth materials and dumping or storing of refuse. While designed to prevent the deterioration of the natural or traditional river way scene, these standards are not intended to discourage constructive development and the uses of private property. Landowners in the Gateway Zone are both limited *and protected* by the establishment of minimum zoning standards.

However, as the River Roundtable results revealed, significant threats to the lower Connecticut River remain. The Gateway Commission has responded to this by revisiting its zoning standards in an effort to specifically address a number of pressing concerns.

While addressing some key threats through the standards revision, several other important issues will require additional research and future revision to the zoning standards. These include enforceable tree cutting standards and the issue of public access and docks. Additionally the need for more public education, while acknowledged as an important component of successfully implementing new standards, has not been specifically addressed.

Techniques for Protecting the Scenic Quality Of the Gateway Zone

Through the River Roundtables and numerous phone calls and letters, members of the public have expressed concern that, in many cases, new residential construction and renovations along the River are changing the scenic character of the River valley. Large structures, extensive regrading of the natural topography, and wholesale removal of trees and brush result in houses that are much more visible from the River than less recent residential development typically was. In 2003, the Gateway Commission began a process to amend to the Gateway zoning standards in an attempt to address this concern. Good design is a matter of relationships among individual structures, the built environment, the natural landscape, the historic context and the people who perceive the whole. Architectural and landscape design should emerge from the context and link with its surroundings. Whether the new Gateway zoning regulations are fully adopted or not, there are some considerations which homeowners, developers, architects, and local land use officials can keep in mind when designing new structures in the Gateway area.

Architectural Considerations

Building Height

Architectural considerations include keeping new homes low to the ground to minimize visibility from the River. Current standards restrict height to a maximum of thirty-five feet within the Gateway area. Height is measured as the vertical distance between the highest point of the structure and the lowest point of the structure at grade. When a site is graded and a retaining wall constructed to create a raised development platform, the height of the retaining wall may add significantly to the visual height of the building. The Gateway Commission is proposing that the height be measured from the original grade, not a newly created grade. Keeping the structure's façade low when viewed from the River will lessen the "sore thumb" impact of new development.

Limiting Height Exceptions

Under a special permit, homeowners may currently request local approval to add architectural detailing which exceeds the thirty-five foot height limit. Height exceptions are limited to ten percent of the building area. This provision has been used occasionally and inappropriately to create a more imposing building façade along the River. Height exceptions should be approved sparingly and only when the design element adds to the overall effort to fit the building to the natural and traditional river scene. Designers should be able to demonstrate that height exceptions are requested only for architectural elements that help the building fit into the landscape or echo historic development patterns along the River.

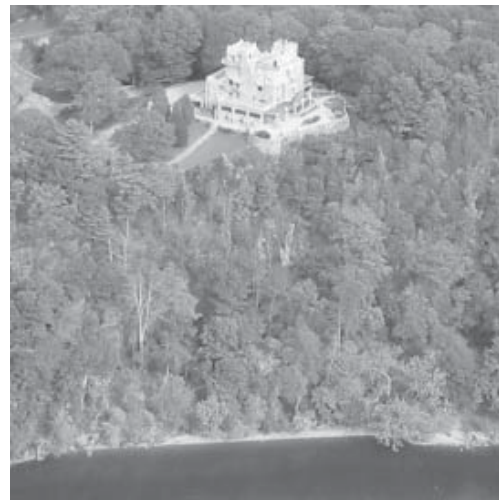
Limit Overall Building Size

Other than height limitations, the only restrictions on building size within the Gateway area are the limits on lot coverage and required setbacks from property lines. The typical new American house is becoming increasingly larger each year, fast approaching an average of three thousand square feet of living area. Many of the new and renovated houses have been unfavorably termed "trophy houses" or "McMansions", but it is not so much the actual square footage of a house, but rather the design and context of the house, which draws adverse comments. Still, it is appropriate to consider whether building such huge residences is in keeping with the rural New England context of the River valley.

Design Within the Context of the River Valley

With few historic exceptions such as Gillette Castle, traditional residential development has blended with the landscape, using shapes, colors and materials that evoke the natural features of the Lower Connecticut River Valley. The choice of roof and siding colors, the prominence of glass and exterior lighting, and even the pitch of a gable may have a significant effect on the visibility of a structure from the River. The visual relationships of building bulk

and form should be balanced with the site itself, and the use of color and texture should reflect the community context. Sensitive design will identify existing natural features such as mature trees, topographic features and rock outcroppings, use those features as design components, and preserve as much as possible.



Gillette Castle is an exception to traditional residential development along the River that has typically blended with the landscape. (C. Joyell, CRWC)

Site Considerations

Increase Building Setback from the Shoreline

Since 1974, the Gateway standards have required all buildings or structures except marine facilities to be located at least fifty feet back from the Connecticut River or its tributaries. The Gateway Commission has found that the fifty-foot limit often allows new construction on the sloping riverbank, where visibility and potential for erosion is maximized. The Gateway Commission has proposed an increased setback of a minimum of one hundred feet.

Screen Development with Natural Vegetation

In order to maintain the wooded appearance of the riverbank, a natural vegetated buffer should be retained or created along the immediate shoreline. This addresses not only the visual impact, but also biological concerns. Preservation of existing trees and other native vegetation or planting of new landscaping, which screen or softens new development will reduce the negative visual impact. The Gateway Commission proposes that a vegetated buffer of fifty feet horizontal distance inland from the high tide line be maintained during and after construction.



A vegetated buffer can help to screen or soften both new and existing development. (C. Joyell, CRWC)

Restrict Location of Structures and Site Clearing

In addition to increasing the setback from the River for new structures and maintaining a vegetated buffer along the River and its coves, the placement of new structures in relation to the slope of the land can have a very significant impact on the visibility of the development. Avoid locating structures on the crest of river-facing hillsides or transforming those hillsides into flat treeless platforms for sprawling houses and lawns. Use terrain-adaptive architecture in preference to severely modifying the site to accommodate a building intended for flat land.



Large areas of clearing can result in significant visual impacts to the “natural and traditional riverway scene.” (C. Joyell, CRWC)



Maintaining natural vegetated cover, as well as a natural shoreline, is preferable to clear cutting, particularly on a large scale. (C. Joyell, CRWC)

Activities To Maintain Natural Shoreline

Sample Of Possible Permitted And Prohibited uses
in 50' Buffer

<i>Permitted</i>	<i>Prohibited</i>
Stairs or similar structures not exceeding five feet in width to provide shoreline access in areas of steep slopes or unstable soils, with permit from zoning enforcement officer. (Must demonstrate that no reasonable access alternative exists on the property)	Stairs or similar structures cannot extend below or over the high tide line of the Connecticut River or its tributaries or the upland edge of a wetland
Areas mapped and designated by the appropriate local regulatory commission as “developed” do not require a vegetated buffer. Property owners are encouraged to maintain existing vegetated buffers immediately adjacent to the water.	Cleared opening for development, including but not limited to surface regrading, stormwater drainage structures, retention walls, principal or accessory structures, driveways, sewage disposal, lawns and gardens



Wooded buffers maintain destroys the vegetation’s ability to protect the River from pollution, as well as to help screen development. (C. Joyell, CRWC)

<i>Permitted</i>	<i>Prohibited</i>
Maintain well distributed stand of trees and other vegetation, including existing ground cover	Clear cut openings
Footpath or other permitted uses to access water-dependent uses, provided it does not exceed five feet in width or create a clear line of site through buffer strip	Removal of existing vegetation under 3’; includes fields that have reverted to shrubs, trees or other woody vegetation
Pruning of bottom third of trees	
Existing cleared openings can be maintained as such	Existing cleared openings cannot be enlarged
Trees representing safety hazard may be cleared within buffer area, provided openings created by removal are replanted with native trees, unless existing new growth is present. Prior to removal, zoning enforcement officer or consulting forester must approve	No timber harvesting within buffer

Guidelines for Site Development

<p>Proposed site development to maintain natural characteristics of the site, such as major landforms, natural vegetative and wildlife communities, hydrologic features, scenic qualities and open space that contributes to a sense of place</p>
<p>Structures shall be adapted to the existing terrain, rather than altering the earth form to create a platformed development site</p>
<p>Structures located above the crest of hillsides facing the river shall be held back from the crest of the hill to maintain a clear sense of the hillside brow in its natural condition</p>
<p>Vertical architecture elements shall not be over emphasized in a manner that disrupts the natural silhouette of the hillside. Structures shall be designed so that the slope angle of the roof pitch is generally at or below the angle of the natural hillside or manufactured slope</p>
<p>Building forms shall be scaled to the particular environmental setting to avoid excessively massive forms that fail to enhance the hillside character. Massing of structural elements such as large roof areas shall be broken up to approximate natural slopes</p>
<p>Roof lines shall relate to the slope and topography. Rooftop treatment shall be designed to avoid monotony of materials, forms and colors. Dark colored roof treatments, which reduce visual impact of the structure on the landscape, are preferred</p>
<p>Site design shall preserve the natural landscaping where possible provide adequate screening to the river. New landscaping should be compatible with existing natural vegetation and the scenic character of the area</p>

Guidelines for Site Development

<p>Development shall be located so as to minimize disturbance of sensitive areas. The smallest practical area of land should be exposed at any one time during development and the length of exposure should be kept to the shortest practical time. Disturbed areas shall be replanted with trees, shrubs and ground cover that is compatible with existing vegetation</p>
<p>Site grading shall avoid straight and unnatural slope faces. Cut and fill slopes shall have curved configurations to reflect as closely as possible the forms and shapes of surrounding topography. At intersections of manufactured and natural slopes, abrupt angular intersections should be avoided and contours should be curved to blend with the natural slope</p>

Water Pollution: The Invisible Problem

The types of contamination that lead to water quality decline include toxins, such as pesticides and PCB's (polychlorinated biphenyls); metals, such as lead, chromium, copper, nickel, zinc, cadmium, and tin; and nitrogen, a nutrient that has proven to be a critical problem in Long Island Sound. In humans, toxins have been shown to cause disorders of the immune, reproductive, developmental, and neurological systems.

A relatively new awareness has surfaced concerning the impacts of pharmaceuticals in water bodies. In 2002, a study conducted by the U.S. Geological Survey showed evidence of drugs, hormones, steroids and personal care products such as soaps and perfumes in eighty percent of streams sampled in thirty states. In Texas a recent study found evidence of anti-depressants in the brains, livers, and muscles of fish caught



Vegetated buffers go a long way toward protecting the River from nitrogen and pesticide runoff from lawns maintained on the River slope. (C. Joyell, CRWC)

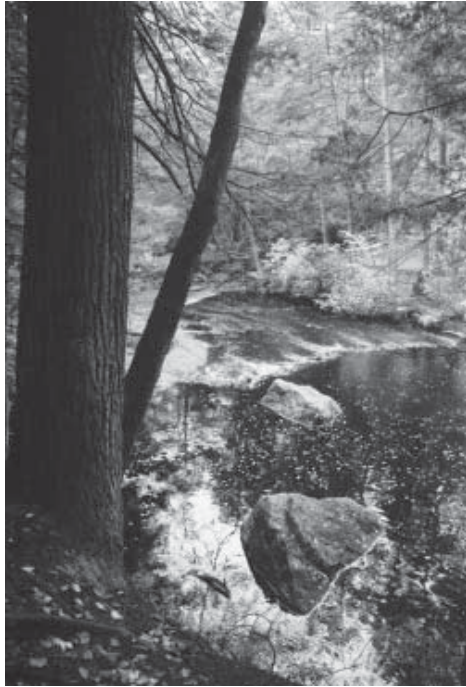
The Ecological Values of Vegetated Buffers

An important aspect of every watercourse is its vegetated shoreline – or riparian area — that serves the role of providing wildlife habitat, protecting and stabilizing the shoreline, and removing harmful contaminants before they enter the water.

Riparian forests protect water quality by reducing the amount of sediment and other pollutants that enter streams, lakes, and other surface waters. By creating roughness along the surface of the ground, the vegetation decreases water velocity and allows time for water to infiltrate the soil and for sediments to drop out, removing dissolved pollutants from soil water. Plants also protect the surface of the soil from wind and water erosion, stabilize stream banks and modify temperature, light, and humidity within the riparian area and the stream itself.

Scientists studying the effectiveness of riparian buffers on the western shore of the Chesapeake Bay in Maryland estimated that a riparian buffer removed eighty-nine percent of the nitrogen from adjacent field runoff. Similarly on Maryland's eastern shore, scientists found riparian buffers removed 95 percent of the nitrates from agricultural runoff.

Changes in the vegetative cover in the watershed can cause changes in the amount and timing of water flows in stream channels. Where stormwater once soaked into the ground, it now must flow over hard surfaces, picking up sediments, petroleum products, chemicals, metals, and other pollutants and discharging them directly into storm drains and streams.



Vegetated buffers provide a variety of ecological services that protect water quality and aquatic life. (J. Preston)



Small streams that ultimately drain to the Connecticut River and Long Island Sound are an essential part of a healthy watershed. (J. Preston)