

# Status of Zoning Protections for Riparian Areas in CT

- Enabling Legislation
- What Zoning Regulations in CT are already protective of riparian areas?
- Do they appear to be effective given current data?
- Strategies for combining Zoning, Planning and Design



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# TMDL Towns in Connecticut and Public Act 21-29

ctdeep.maps.arcgis.com/apps/MapSeries/index.html?appid=355b12efb86b41de82ed8059b4f2bb2c

Bookmarks: LOC Web of Scien..., NWS LF, Washington sets r..., biggerpicture.pdf, Save to Mendeley, Muth, C., Raab, M..., JPB Project, Meeting Informatio...

## Stormwater Pollution Management in Connecticut

Connecticut Department of Energy and Environmental Protection

Bacteria TMDLs in CT | CT Impervious Cover Map | Watersheds Subject to the CT Phosphorus Strategy | **Towns Subject to the LIS TMDL** | Towns Subject to the Mercury TMDL

The Long Island Sound Study (LISS) began in 1985 when Congress appropriated funds for the U.S. Environmental Protection Agency (EPA) to carry out a program to research, monitor, and assess the water quality of Long Island Sound in concert with the states of Connecticut and New York through the Connecticut Department of Energy and Environmental Protection (CT DEEP) and the New York State Department of Environmental Conservation (NYSDEC), respectively. Pursuant to the Clean Water Act (CWA) Amendments in 1987, Section 320 of the Act established the National Estuary Program. At the request of the states of Connecticut and New York, Long Island Sound was officially designated an "Estuary of National Significance" under this program. A Management Conference, consisting of federal, state, interstate and local agencies, universities, environmental groups, industry, and the public, was convened in March 1988 and charged with developing a Comprehensive Conservation and Management Plan (CCMP) to protect and improve the environmental quality of Long Island Sound while ensuring compatible human uses.

This map shows that all municipalities in Connecticut are included in the Long Island Sound Total Maximum Daily Load (LIS TMDL).

Read the LIS [TMDL](#) in full text or to learn more about the [Nitrogen Control Program for Long Island Sound](#).

CT Municipalities Included in the LIS TMDL

(10) In any municipality that is contiguous to or on a navigable waterway draining to Long Island Sound, (A) be made with reasonable consideration for the restoration and protection of the ecosystem and habitat of Long Island Sound; (B) be designed to reduce hypoxia, pathogens, toxic contaminants and floatable debris on Long Island Sound; and (C) provide that such municipality's zoning commission consider the environmental impact on Long Island Sound coastal resources, as defined in section 22a-93, of any proposal for development.

## Inland Wetlands and Watercourses (IWW) Act and Review Areas

Chapter 440 of CTGS

Recognizes importance of IWW protection for public welfare

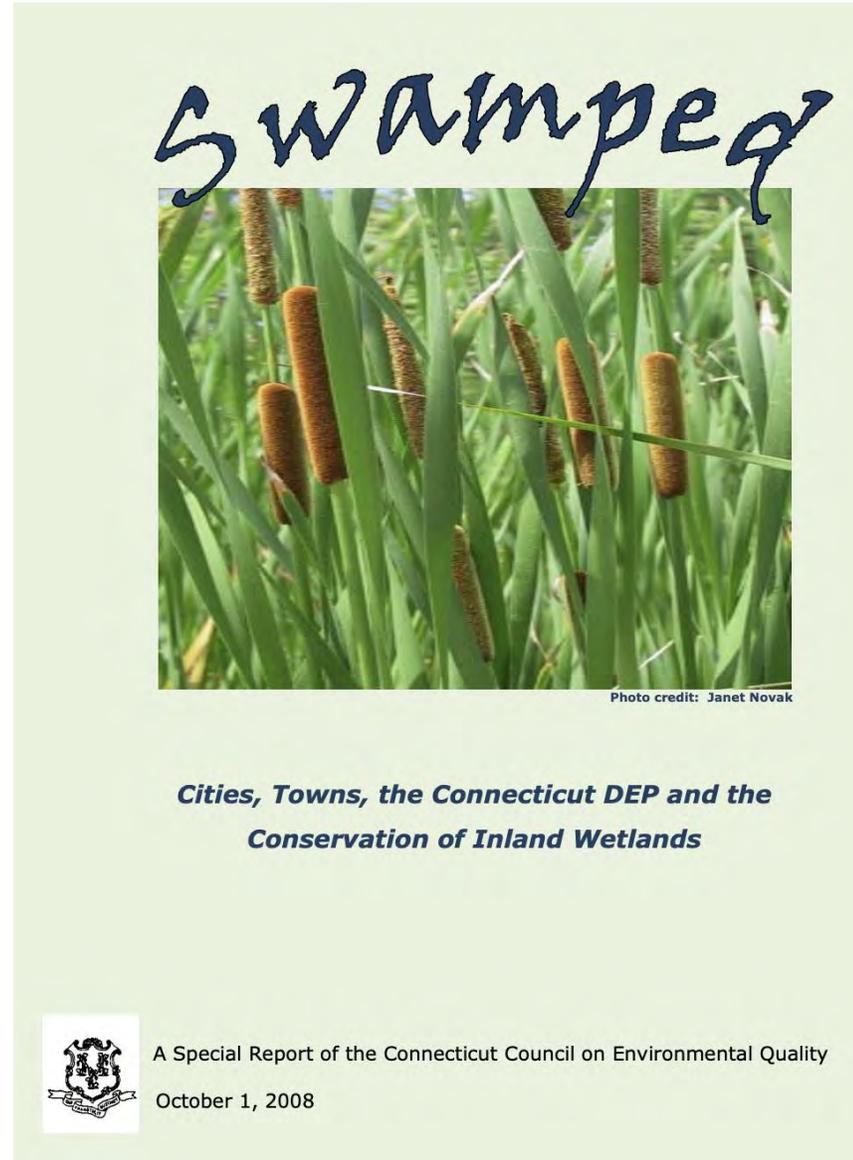
Requires training for IWW agency/commission member(s)

Requires permits for activities impacting IWW

Generally permissive of residential development, agriculture, recreation, and 'accessory' uses

Boundaries of review areas set by municipalities

Specifies criteria for administrative review and intervention



CEQ in 2008:

Training appears to be effective in protecting wetlands

Training needed to be more accessible and updated

Municipalities have inconsistent reporting to DEEP

DEEP did not have staff to implement, enforce, or provide sufficient technical assistance to IWWA

Combined IWW and PZC appear less effective at protecting wetlands

## Dedicated Riparian Corridors / Buffers

Willington CT, Effective 12/15/2012

Riparian Corridors. The following watercourses and their tributaries (upstream to the point where their drainage area is less than 200 acres) are of special concern within the town: Fenton River, Roaring Brook and Willimantic River. For these watercourses and their tributaries, no buildings or associated parking areas, septic systems, or clearing of vegetation shall be proposed within 150 feet measured horizontally from the wetland boundaries adjacent to each side of the watercourse; provided, however, that septic systems required to serve an existing building or use may be located within such buffer, subject to approval in accordance with the Willington Inland Wetland and Watercourses Regulations. Utilities, erosion and sediment control practices and storm water management control practices may be installed within the 150' buffer provided their impact is minimal. [Effective 12/15/12]

## THE CASE FOR RIPARIAN CORRIDOR PROTECTIONS



Zoning Strategies to Reduce Pollution of Inland Waters  
and Resultant Hypoxia of Long Island Sound

August 10, 2021  
Western Connecticut Council of Governments  
1 Riverside Road, Sandy Hook, CT 06482  
<http://westcog.org>



# Wetlands and Watercourses Buffers

Washington, CT, effective January 11/4/2021

12.1\* Wetlands and Watercourses Setbacks.

**12.1.1 No structure except a fence shall be located within 50 feet of any water body, watercourse, or wetland or within 50 feet of a flood plain boundary line with the following exceptions:**

A. Erosion and sedimentation remediation measures approved by the Inland Wetlands Commission

B. For Lake Waramaug only:

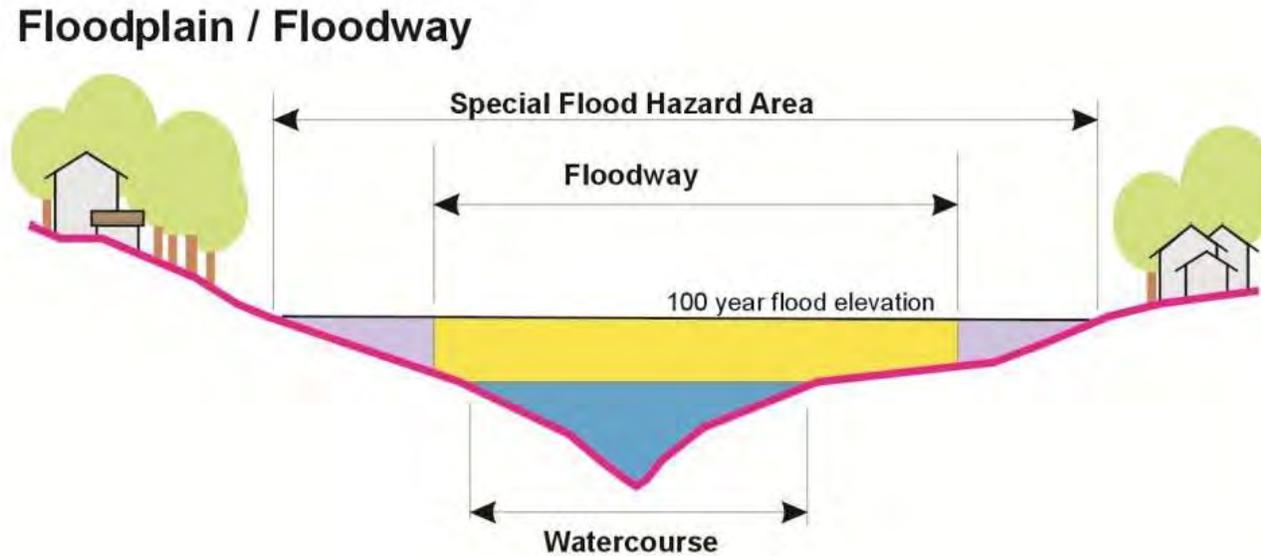
- 1.† Boathouses, docks, rowing shell docks, and waterfront access stairs as provided for in Section 6 of these Regulations pertaining to the Lake Waramaug Residential District. Boathouses shall not extend over or into Lake Waramaug.
2. One municipal boat ramp and associated parking and storage structures and facilities managed and operated by the Town of Washington.

12.1.2 No building, paved surface, ‡street, sewage disposal system, excavation, quarry, or refuse disposal shall be located within 200 feet of the streambanks of the Shepaug and Bantam Rivers or Bee Brook as defined by the Northwest Conservation District, or within 100 feet of the streambanks of the East Aspetuck River. (For the purposes of this section, Bee Brook originates 200 feet north of Christian Street.)

12.1.3 No part of the leach field for any sewage disposal system shall be located within 75 feet of any well. No part of the leach field for any sewage disposal system shall be located within 100 feet of any spring, watercourse, or lake or within 50 feet of any human habitation other than the building served.

# Floodplain Regulations / Review

**Floodway or Regulatory Floodway**– The channel of a river or other Watercourse and the adjacent land areas that must be reserved in order to discharge the Base Flood without cumulatively increasing the water surface elevation more than one (1) foot. The Floodway is designated on the community's Flood Boundary and Floodway Map.



New Hartford Zoning Regulations, Effective March 27, 2023

# Floodplain Regulations / Review

Simsbury 05/21/2023

"Floodplain Permitted Uses:

Open space uses to the extent that they are not prohibited by any other ordinance or regulations and provided they do not require buildings, structures, fill, pavement, or the storage of equipment or materials.

Agricultural uses including farming, nurseries, forestry, and grazing: provided that fertilizer, manure, and chemicals are stored at least one hundred (100) feet away from and stream

Buildings, structures, and signs related to permitted uses

Parking areas as an accessory to adjacent permitted uses within or adjacent to the floodplain

Public roads

Filling, paving, and grading of land provided:

- a. Such filling is accessory to abutting permitted uses or a use permitted in the Floodplain zone
- b. The flow of the river or its related streams shall not be retarded, and the storage capacity that alleviates flooding elsewhere is not reduced

**...In no case shall any new building or structure intended for human occupancy (residential or non-residential) be permitted in the Floodplain Zone."**

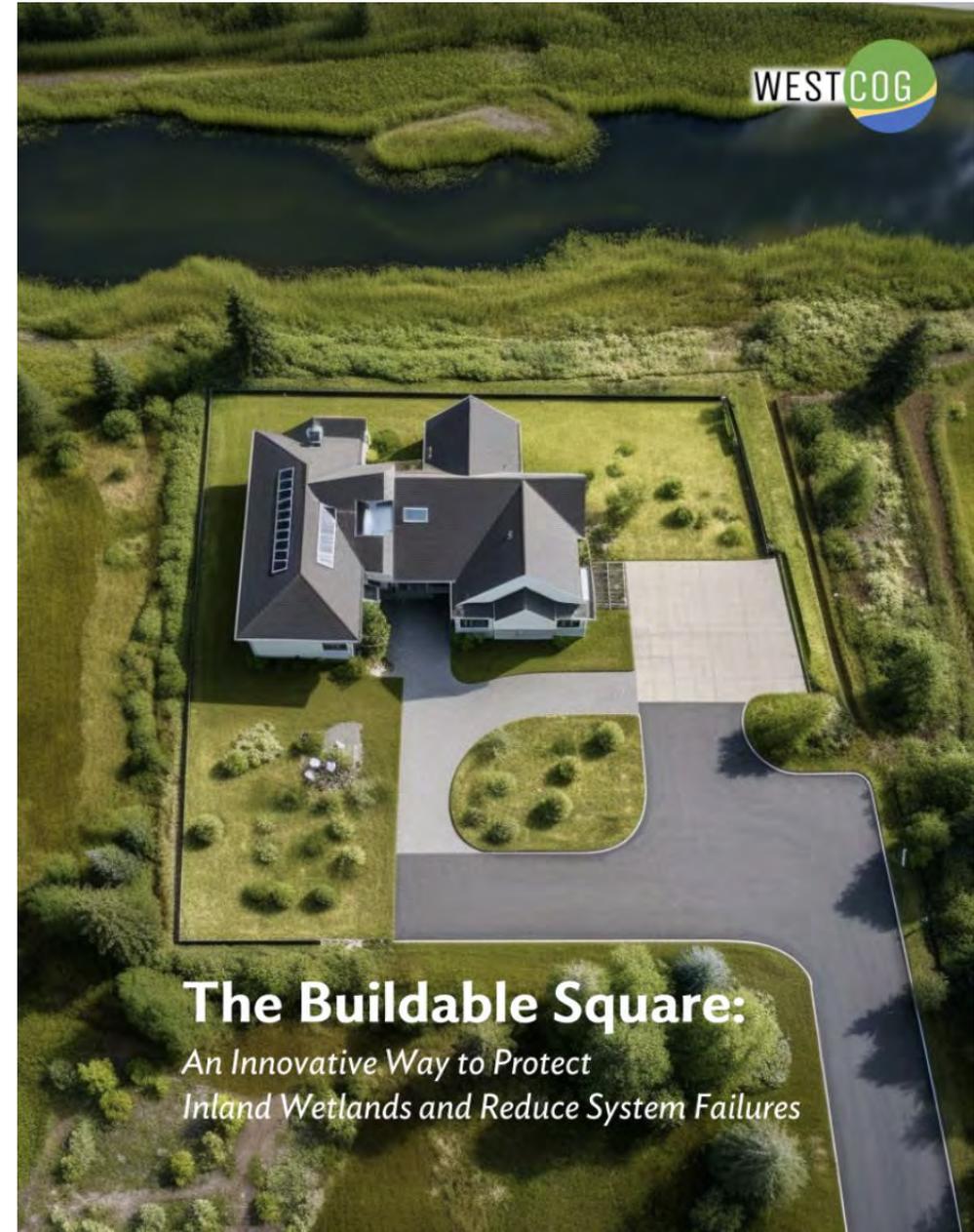
December  
19, 2023



## Minimum Buildable Lot/Area Standards

"For the purposes of Section 8.2 and 8.4 above, "buildable area" shall include the contiguous area of a lot exclusive of wetlands, watercourses, water bodies, **wetlands buffer areas (50' minimum)**, detention areas, utility and drainage easements, rights-of-ways, the required front yard, and one half (1/2) the side and rear yard setback. No more than 20% of the required minimum buildable area shall contain slopes in excess of 20%."

Lisbon, CT 10/01/2023



## Vegetative Screening / Buffer Requirements - A missed opportunity?

Southington CT, effective 11/4/2023

### 1.5. Screening –

- a. Each property line along which residential units are proposed shall be paralleled by a screen of naturally existing vegetation at least 20 feet wide, or shall be landscaped by planting a double row of pine trees.
- b. All landscaping shall be appropriately maintained.
- c. Applicants shall avoid clearing existing vegetation where possible, but may propose additional plantings where necessary to improve screening.
- d. Such landscaping is not required in areas where utilities are proposed or where wetlands or watercourses are located.**
- e. Mechanicals and outside generators that serve the entire community and dumpsters shall be screened with a lightproof fence. In the case of dumpsters, a detail of the proposed dumpster enclosure shall be included on the plans and a note shall be added to the plans stating that the top of the dumpster shall be no higher than the top of the fence. A lightproof fence shall be required.

## Aquifer and Water Supply Protection Zones

Montville CT, effective 01/29/2024

### SECTION 5: WATER RESOURCE PROTECTION ZONE – WRP 160 DISTRICT

#### 5.1 PURPOSE

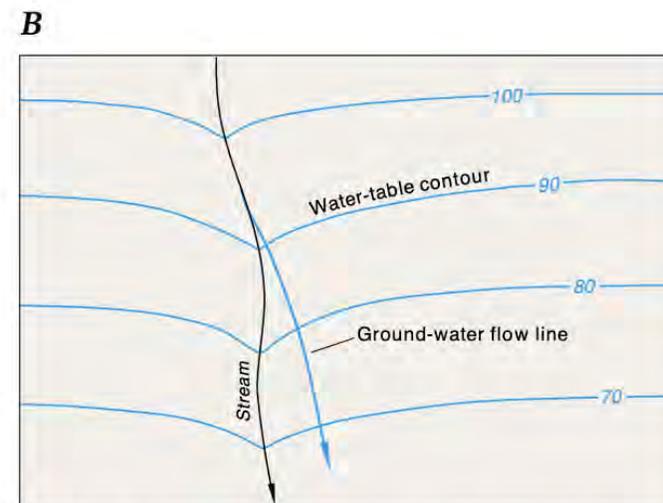
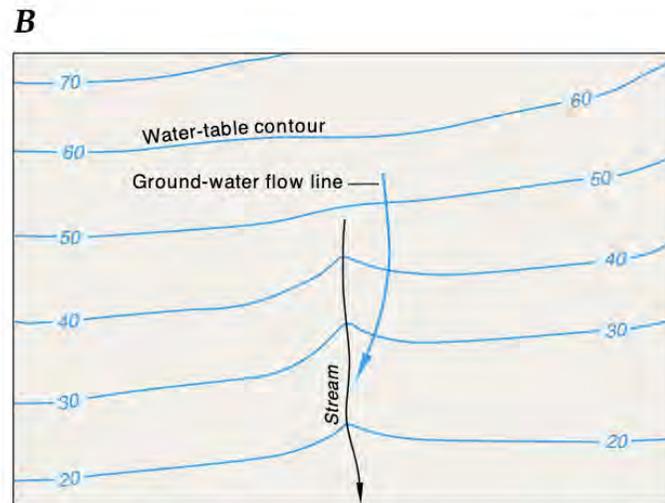
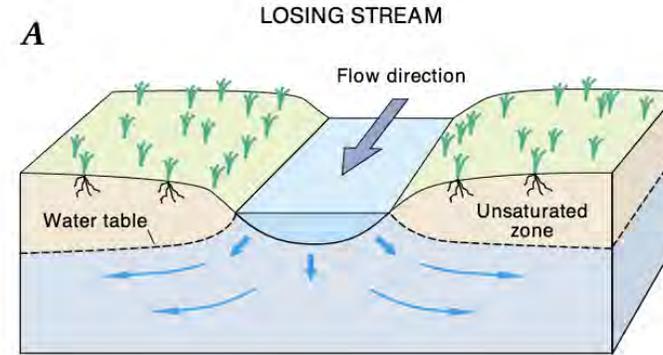
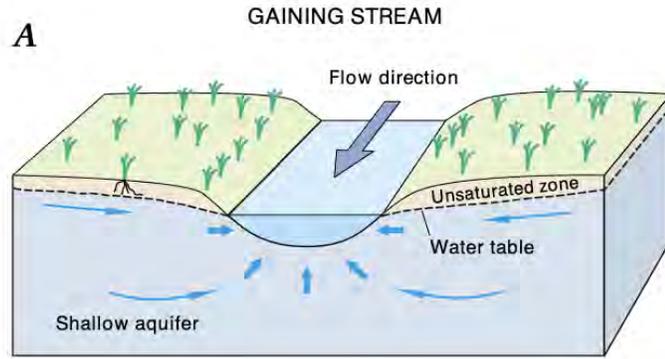
The Commission recognizes the direct correlation between the overall level of development that exists in a drainage basin or aquifer recharge area and water quality. The water resources protection zone is designed to protect public water supply watersheds and groundwater sources which are capable of yielding a long term water supply. The clearing of natural ground cover and the filling of wetlands should be kept to an absolute minimum in this district. Public sewers should be extended to correct existing pollution problems only, not for the purposes of accommodating new development at increased density. The intent of the district is to limit land use to low density uses.

#### 5.8 ENVIRONMENTAL PROTECTION

5.8.1 The following uses and/or activities are prohibited within this district:

- a. Underground storage tanks, b. Salt storage, c. Hazardous waste storage, d. Sewage lagoons e. The use of pesticides within one thousand feet (1,000') of the high-water mark of a public water supply reservoir. f. Sewage disposal systems within one hundred feet (100') of a high water mark of a public water supply reservoir or within seventy-five feet (75') of a watercourse flowing into a reservoir. g. Cemeteries h. Sanitary landfills
- i. The location of any building within seventy-five feet (75') of any regulated wetland, body of water, or watercourse.**

# Linking Surface and Groundwater Protection in Riparian Zones



**Figure 8.** Gaining streams receive water from the ground-water system (A). This can be determined from water-table contour maps because the contour lines point in the upstream direction where they cross the stream (B).

**Figure 9.** Losing streams lose water to the ground-water system (A). This can be determined from water-table contour maps because the contour lines point in the downstream direction where they cross the stream (B).

**Section 9.11 – Eightmile River Watershed Overlay District**

East Haddam – 10/01/2016

9.11.1 Purpose and Intent

The Town of East Haddam desires to protect its natural resources and to control development’s deleterious effects on its watersheds. The riparian and wetland features of the Eightmile River Watershed are a key component of the largely intact watersheds and natural character of East Haddam. In order to preserve a fully-functioning aquatic system in the Eightmile River Watershed, and to prevent damage to the critical buffer zone around it's water bodies, the Eightmile River Watershed Overlay District is hereby established. Please note that this does not replace any obligation of the applicant to have a determination made by the East Haddam Inland Wetlands and Watercourses Commission or any other regulatory agency as whether additional reviews and permits are necessary. **Protection of a buffer around water bodies and wetlands is crucial for public health, safety, and welfare because it protects water quality, regulates flow, preserves wildlife habitat, and maintains important cultural and historical features of the Town. This buffer serves many specific functions:**

**Regulation of water flow:**

- a. Promotes water infiltration and groundwater recharge.
- b. Reduces flooding.
- c. Reduces streambed scour.

**Preservation of wildlife habitat:**

- e. Provides a unique habitat that supports a diverse species assemblage.
- f. Shades, filters, and moderates stream flow, improving habitat for fish and other aquatic organisms.
- g. Provides an effective travel corridor for terrestrial wildlife.

**Protection of water quality:**

- a. Reduces sedimentation.
- b. Filters out pesticides, heavy metals, and biocontaminants.
- c. Removes excess nutrients that lead to eutrophication, including nitrogen and phosphorus.
- d. Prevents erosion through bank stabilization by vegetation.

**Preservation of views:**

- a. Provides a screen that protects privacy of riverfront landowners
- b. Enhances landscape diversity resulting in improved aesthetics

**The purpose of this Eightmile River Watershed Overlay District is to maintain a continuous buffer of native forest and shrubs around all watercourses and wetlands. The most effective riparian buffers should include a mix of trees, shrubs and herbaceous plants native to the region and appropriate to the environment in which they are to be planted.**

## SECTION 5.3 FARMINGTON RIVER PROTECTION OVERLAY DISTRICT

New Hartford CT, effective 03/27/2023

## A. Purpose

This regulation establishes standards and requirements for the use and conservation of land and water within the District in recognition of the river's eligibility for designation under the National Wild and Scenic Rivers Act. The regulation also contributes to the regional conservation of the river corridor.

The purposes of the Farmington River Protection Overlay District are to:

- Protect life, public safety and property from Flooding hazards;
- Prevent any Alterations to the natural flow of the river in order to maintain its recreational opportunities, environmental attributes, and historic features;
- Prevent water pollution, including thermal pollution, caused by erosion, sedimentation, nutrient or pesticide runoff, and poorly sited waste disposal facilities;
- Enhance and preserve existing scenic or environmentally sensitive areas along the shoreline;
- Conserve shore cover and encourage environmentally sensitive Developments;
- Preserve and maintain the groundwater table and water recharge areas;
- Conserve the river's Floodplain to maintain its vital ecological and Flood storage functions;
- Protect fisheries and wildlife habitat within and along the river;
- To preserve aesthetic values of the natural river area.

## OPEN SPACE AND RECREATION OVERLAY ZONE

Granby CT, effective 12/15/2023

8.11.1 It is the policy of the Town of Granby to preserve open space in accordance with the requirements set forth herein. These Open Space and Recreation Requirements have been prepared from a regional perspective in an effort to preserve wildlife habitat, flora and fauna, while preserving for the citizens of the region an area in which to enjoy nature, with an opportunity to walk, jog, cross country ski, bicycle, horse ride, picnic, fish, wade, sit or otherwise spend time in a natural setting. In addition to these passive activities these requirements recognize the importance of areas which may be used for active recreational activities which include competitive sports and the importance of the Town's agricultural areas, which the Town strives to preserve, in an effort to provide locally grown fruits and vegetables, dairy products, trees, shrubbery and similar products. The Open Space and Recreation requirements outlined herein are based on the Town's Long Range, Master Plan, titled Preservation and Growth, A Plan of Conservation and Development and on studies and research which have identified agricultural and other important undeveloped areas throughout the town together with areas which can unite or link these areas. These "linkages" are formed by joining undeveloped and undevelopable land areas; including existing open spaces, areas with developmental restrictions, such as streams, wetlands and severe slopes and through the identification and plotting of existing trails. These areas are combined and identified on a map contained herein and entitled Granby's Open Space and Recreation Map.

**8.11.1.5 Where a proposed subdivision includes an area containing a significant stream or a stream linkage as shown on the Open Space and Recreation Map, the applicant shall, where possible, preserve as open space the stream and an area located within two hundred feet from either side of the center line of the stream.**

# TRANSIT VILLAGE DESIGN DISTRICT CODE

## CHAPTER 1. GENERAL INSTRUCTIONS

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*Town of Newington, CT*

### 1.3 INTENT AND PURPOSE

THE INTENT AND PURPOSE OF THIS CODE IS TO ENABLE, ENCOURAGE AND QUALIFY THE IMPLEMENTATION OF THE FOLLOWING POLICIES:

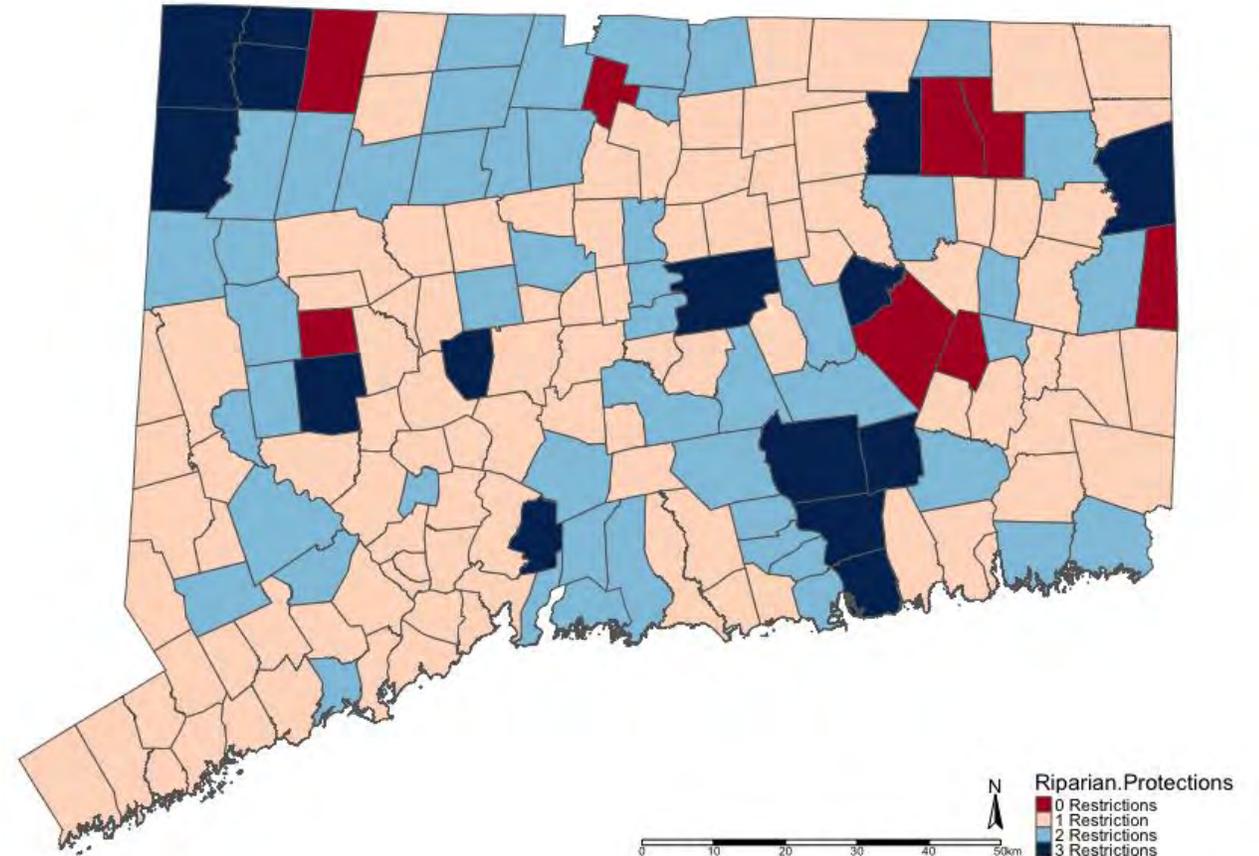
#### 1.3.1 THE TOWN OF NEWINGTON

- a. That the area should retain its natural infrastructure and visual character derived from topography, woodlands, farmlands, and riparian corridors.
- b. That growth strategies should encourage infill, redevelopment, and retrofit to the extent possible.
- c. That new development should be organized in the pattern of complete neighborhoods and/or villages to encourage walking and bicycling and to preserve open lands.
- d. That workforce housing should be distributed throughout the area to match job opportunities.
- e. That transportation corridors should be planned and reserved in coordination with land use.
- f. That green corridors should be used to define and connect the developed areas.
- g. That the area should include a framework of transit, pedestrian, and bicycle systems that provide alternatives to the automobile.

Effective 12/28/2024

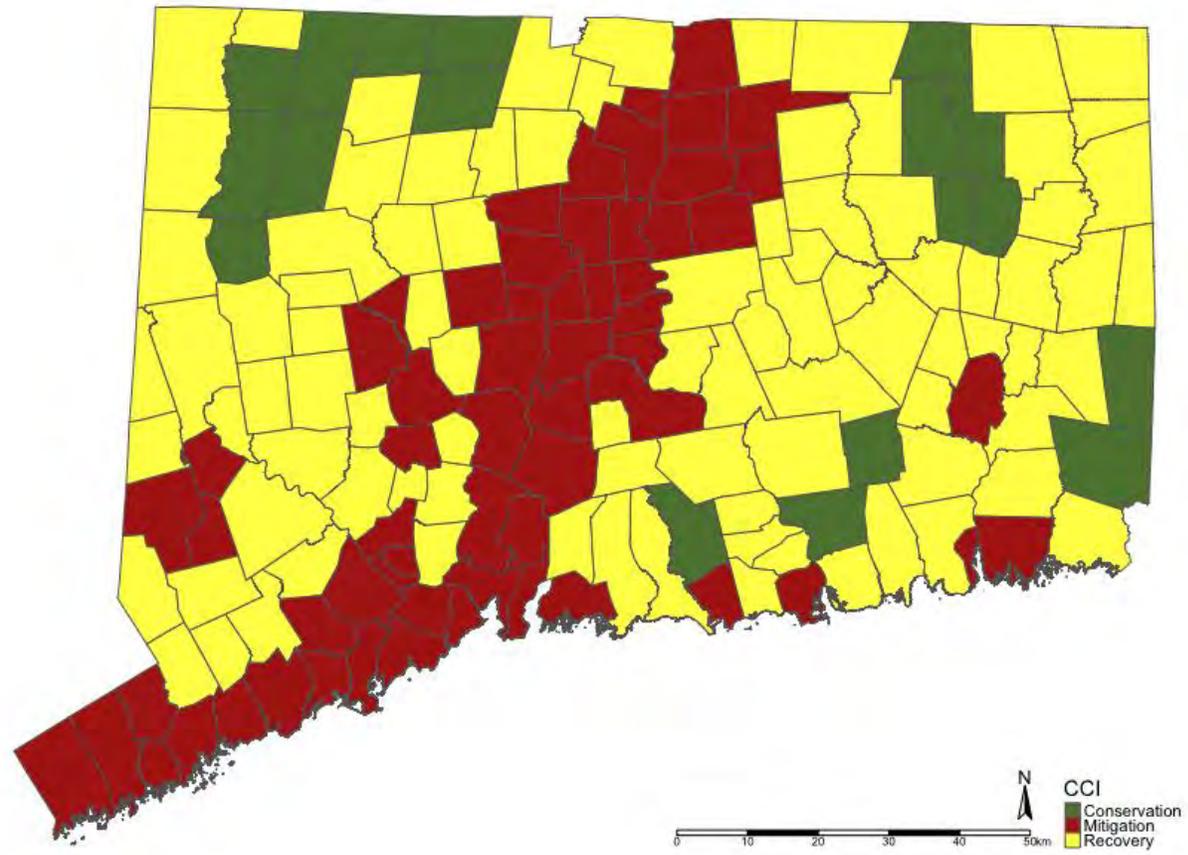
# Review of Current Statewide Municipal Zoning Protections

- 31 (18%) CT Municipalities explicitly refer to riparian areas in their zoning regulations
- 51 (30%) have at least partial restrictions on clearance of vegetation near watercourses and wetlands
- 157 (93%) have at least partial restrictions on development, largely due to floodplain regulations, though of these, 147 (94%) are permissive of development with engineering certification of limited impacts on base flood elevations
- 20 (12%) restrict almost all development in the floodway and/or floodplain
- 33 (20%) have some restriction on agricultural activity near wetlands and watercourses

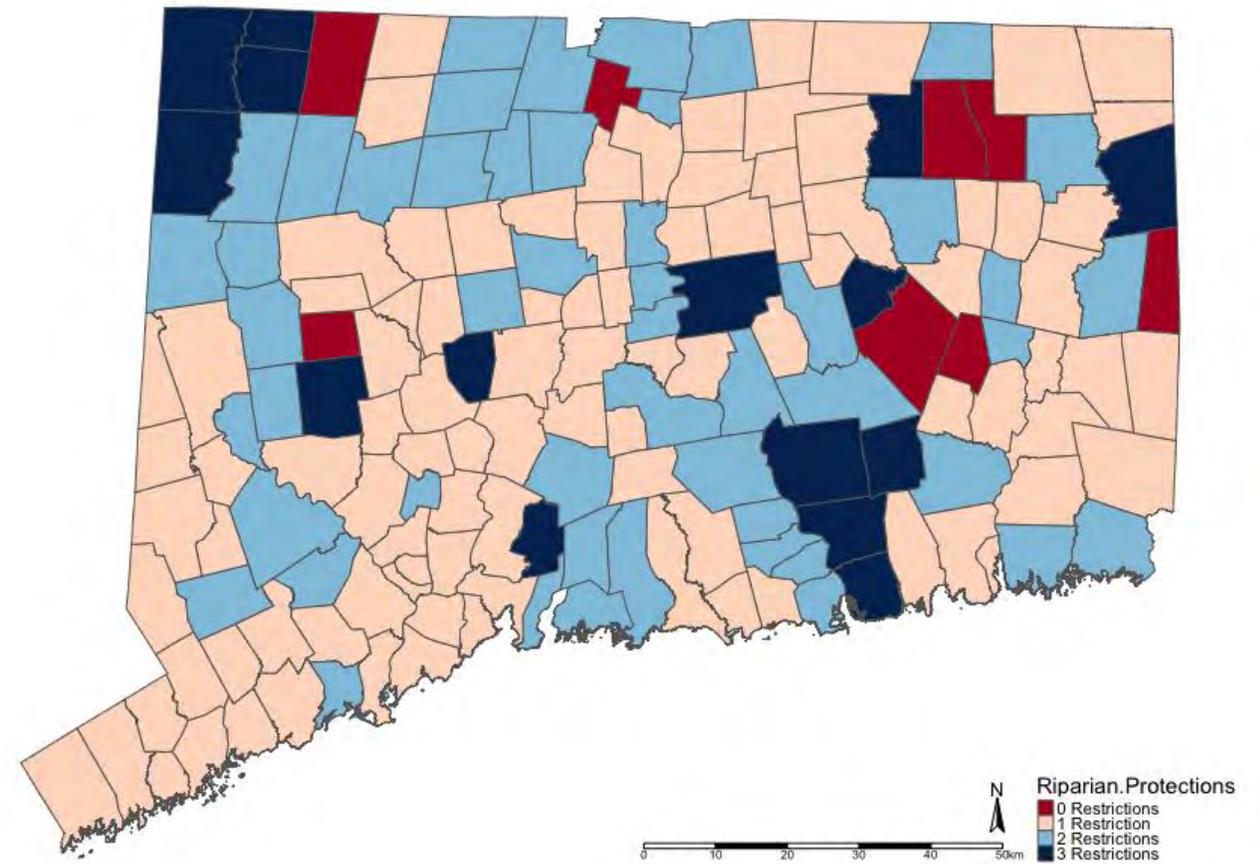


Can we see the impact of these regulations in our current land cover data?

Town Wide Weighted CCI Category



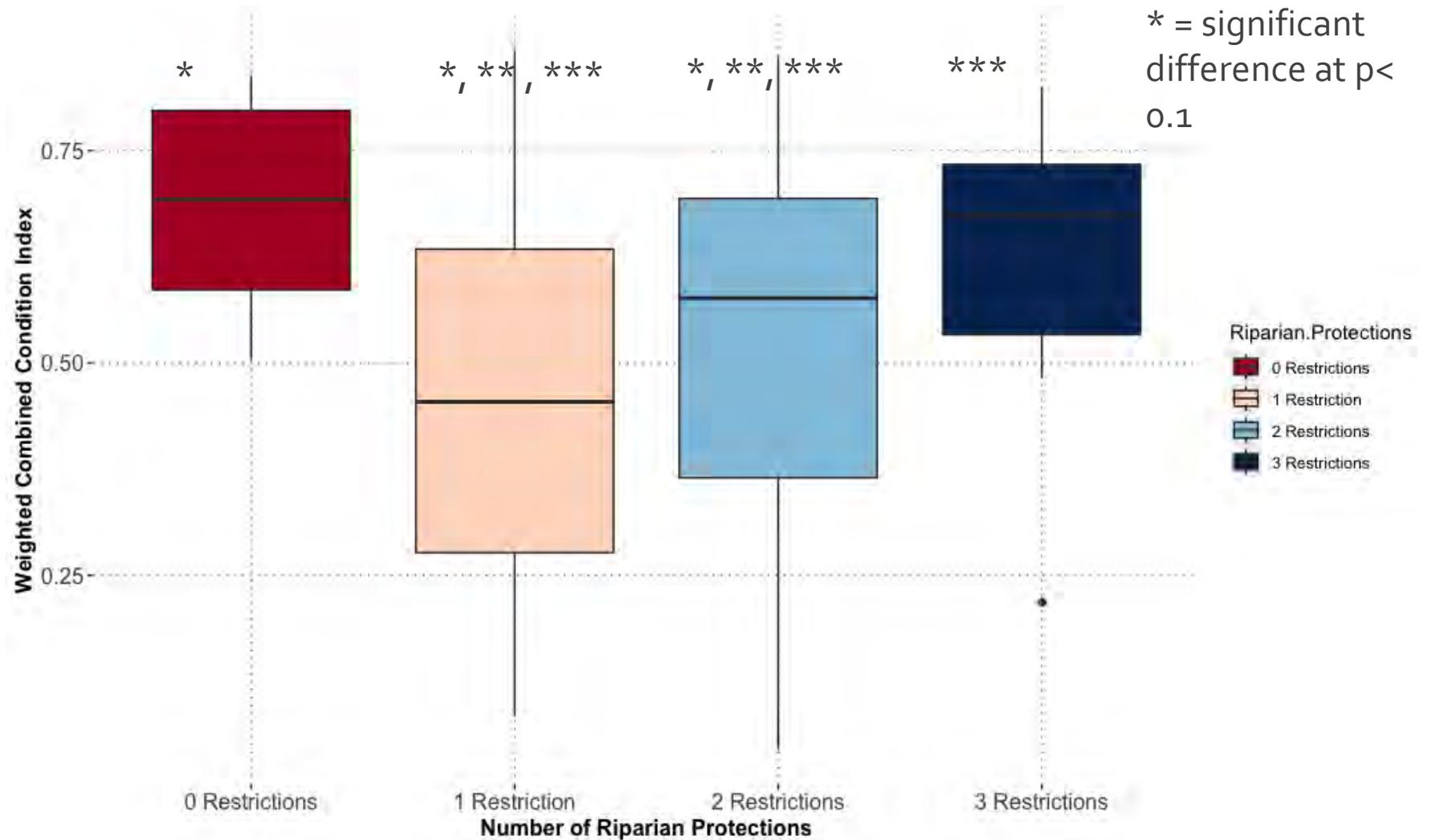
Town Restrictions on Activities within Riparian Buffers



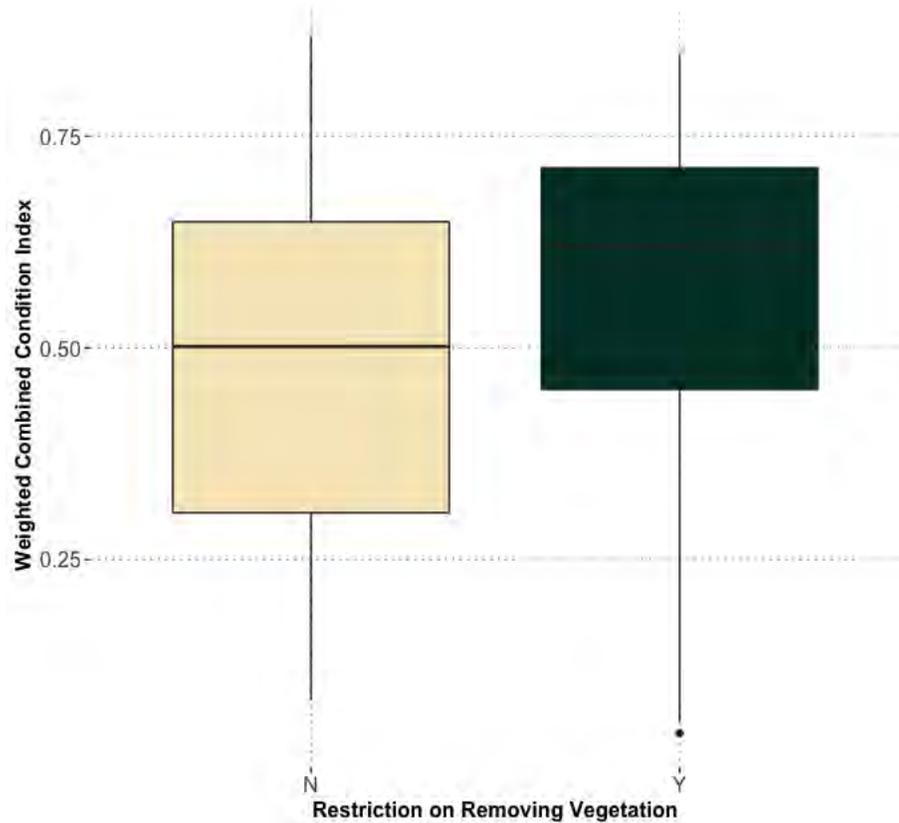
# Differences in Combined Condition Index between towns with varying levels of protection

Towns with no protections have similar CCI as towns with maximum protections

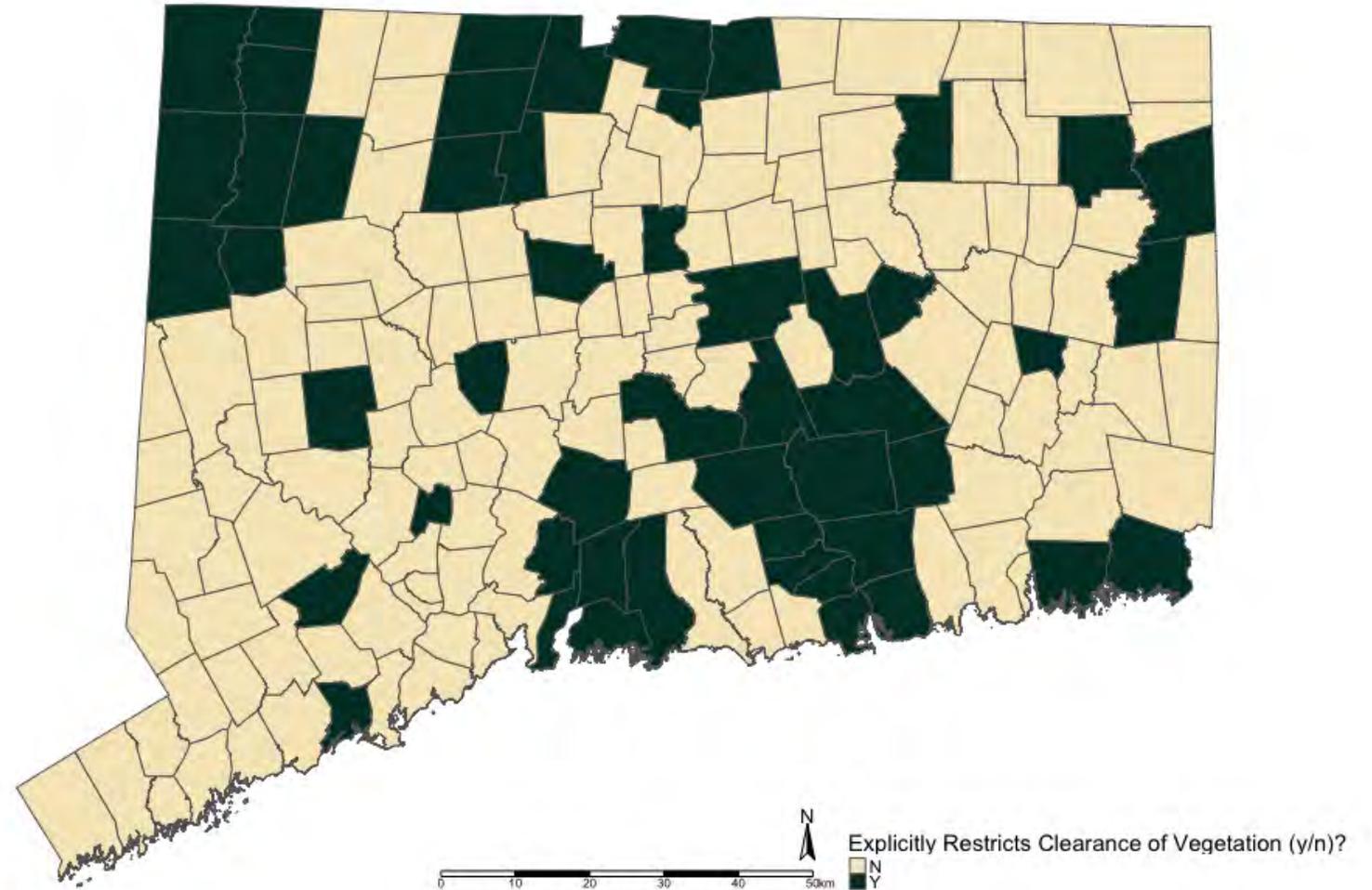
Towns with 3 protections have higher CCI than those with 2 or 1.



Differences between towns appear to be driven by having explicit restrictions on removing vegetation.

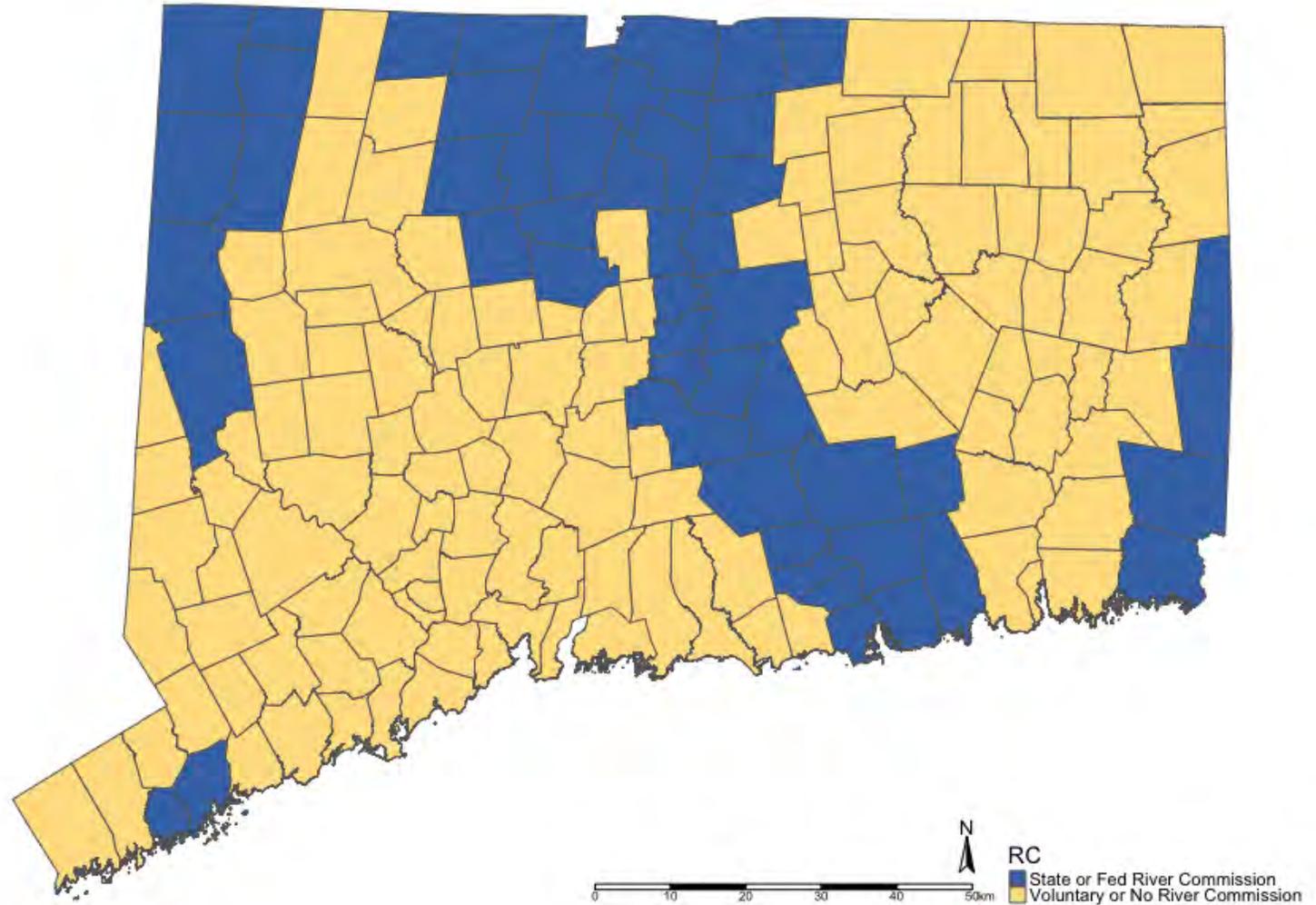


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# The role of State and Federal River Commissions?

- No discernable difference in CCI between towns with river commissions or coordinating committees (Housatonic, Upper and Lower CT and Farmington, Wood and Pawcatuck, Eight and Five Mile)
- River commission towns have varying levels of protection
- Is there a role for integrated planning concepts?



# Towards Integrated Watershed Planning and Design?

- In CT, current zoning protections appear to be effective, and a mix of pro-active planning and restoration will be necessary to protect and restore riparian areas, and we will need to work across scales to do so effectively
- **Combine open space networks, flood hazard reduction, active transportation, urban green infrastructure, stormwater, LID, and site design, with food systems and working landscapes?**
  - **One conceptual framework to accomplish these planning goals is that of Natural or Green Infrastructure, and increasingly Nature Based Solutions**

*Green infrastructure (GI) refers to a system of interconnected ecosystems, ecological–technological hybrids, and built infrastructures providing contextual social, environmental, and technological functions and benefits. As a planning concept, GI brings attention to how diverse types of ecosystems and built infrastructures function in relation to one another to meet socially negotiated goals. (Grabowski et al. 2023)*

*Next steps – restoration guidance, model regulations, and coordinating with watershed groups, COGs, and Land Trusts!*