

River Corridor Protection – Regulatory Approaches

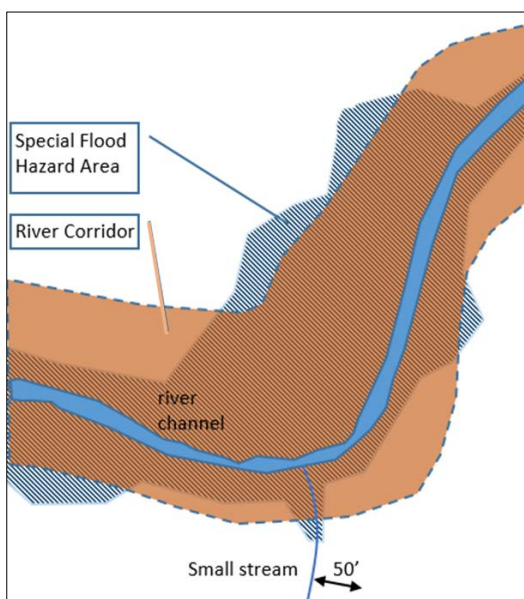


Too much water naturally produces flooding but flooding does not need to result in disaster. Floods become disasters when we place our lives, homes, workplaces and infrastructure in harm's way. Development that occurs in river corridors and floodplains – the places where rivers should be given room to move and overflow – will not only be vulnerable to flood damage but can increase the instability of the river and its destructive force, threatening other properties. Allowing small rises in flood elevation and blockages to river movement here and there, accumulates into significant and hazardous changes, subjecting the community to greater risks.

Municipalities can prevent needless flood damage by prohibiting development and fill in river corridors and floodplains.

Why it Matters

Adopting regulations that prevent landowners from developing their property is a difficult action for local officials to take. While the property rights of those owning land near rivers and streams may be affected, preventing development in those locations protects the whole community from harm. Flood damage results in the largest annual disaster costs in Vermont. Municipalities have a responsibility to do what they can to keep citizens safe, prevent damage to essential public facilities, avoid shut-downs of the transportation network and the resulting disruptions to businesses and reign-in the ballooning costs associated with disasters.



Municipalities have the legal authority to prevent loss of life or property, even when protective measures restrict some uses of private property. If no action is taken, local governments may be liable for damages that unregulated development may cause. The legal system recognizes that property owners who increase flooding or erosion, or violate reasonable watershed or floodplain standards are intruding on the property rights of others. Municipal regulations preventing development in river corridors and floodplains offer a first line of defense against this intrusion.

How to Regulate Development in River Corridors

In Vermont, there are two primary means of identifying areas subject to flood hazard: the areas mapped by the Federal Emergency Management Agency (FEMA) as areas of special flood hazard; and areas mapped by the State of Vermont Department of

Environmental Conservation known as the Statewide River Corridors. The FEMA maps primarily identify areas of inundation (rising floodwaters), while the Statewide River Corridors focus on areas subject to fluvial erosion hazards (when fast moving water in a river or stream erodes the streambank and adjacent land). These areas overlap much of the time but can vary. Together, floodplains and river corridors show areas affected by all types of flooding in Vermont.

Comparing River Corridors and Special Flood Hazard Areas Bylaws

	BYLAWS PROTECTING SPECIAL FLOOD HAZARD AREAS	BYLAWS PROTECTING RIVER CORRIDORS
PROGRAM AUTHORITY	Federal Emergency Management Agency (FEMA), National Flood Insurance Program (NFIP)	State of Vermont Agency of Natural Resources, River Management Program
FINANCIAL BENEFITS FOR MUNICIPALITY	<ul style="list-style-type: none"> Eligible for ERAF 12.5% state contribution. Additional benefits available for municipalities that participate in the Community Rating System (CRS). 	Eligible for ERAF maximum - 17.5% state contribution.
FINANCIAL BENEFITS FOR INDIVIDUALS	<ul style="list-style-type: none"> Eligible for flood insurance through the National Flood Insurance Program (NFIP). Without flood insurance, obtaining a mortgage or loan is difficult. 	<ul style="list-style-type: none"> Less likelihood of damage and disruption from flooding. Over time may lower taxes by reducing increased costs of flood damage.
MAPS OF PROTECTED AREAS	<ul style="list-style-type: none"> Federal Insurance Rating Maps (FIRM) are old with varying degrees of accuracy. Only available for 20% of Vermont streams and focusses on a particular sized flood (1% chance of flooding each year). Maps can be amended for individual sites through a Letter of Map Amendment (LOMA). 	<ul style="list-style-type: none"> State River Corridor Maps (SRCM) are available statewide for all rivers and streams with a watershed over 2 square miles. Streams in smaller watersheds have a 50' setback from the top of bank. Local Fluvial Erosion Hazard maps may be used as the basis for river corridor regulations. SRCMs can be revised and ANR will update on a regular basis.
REQUIREMENTS	<p><u>Minimum Requirements:</u></p> <ul style="list-style-type: none"> Reduce damage to insured structures (elevating, etc.) <p><u>Recommended Requirements:</u></p> <ul style="list-style-type: none"> Restricting new structures and fill. 	<ul style="list-style-type: none"> Directs new fill and structures out of river corridors, but makes exceptions for stream crossings, redevelopment and certain types of infill.

The federal program for local regulation of development in floodplains has long been available to municipalities that choose to make federal flood insurance available to landowners. While 89% of Vermont municipalities participate in FEMA’s National Flood Insurance Program (NFIP), the NFIP was designed with insurance in mind and not for floodplain management. For this reason, municipalities are urged to go beyond the customary minimum NFIP standards to prohibit development in flood hazard areas. The maps used for defining the floodplains for NFIP purposes are often not complete and may not accurately show areas subject to inundation

and are not intended to show areas subject to flood damage through erosion, so it is also important to go beyond the NFIP to regulate development in river corridors as well.

Municipalities can choose to protect river corridors and floodplain as a part of their zoning or land use bylaw or as a stand-alone bylaw, for those municipalities that do not have any land use regulations. Those regulations are not retroactive, so they do not affect land uses and structures that existed when the regulations took effect.

Limited State Regulation of River Corridors

Some state authority exists to enforce river corridor protection but it is limited to the following:

- Act 250 regulates land use in both floodways and river corridors for applications that come under its jurisdiction.
- ANR regulates structures and fill that are exempt from municipal regulation such as state-owned facilities, utilities regulated under Section 248, agricultural structures and silvicultural structures.
- ANR applies the Stream Alteration Rule to regulate the installation of berms along rivers.

MODEL BYLAWS

The Agency of Natural Resources (ANR) offers several [model regulations](#) for a variety of municipal circumstances that address both Special Flood Hazard Areas and River Corridors.

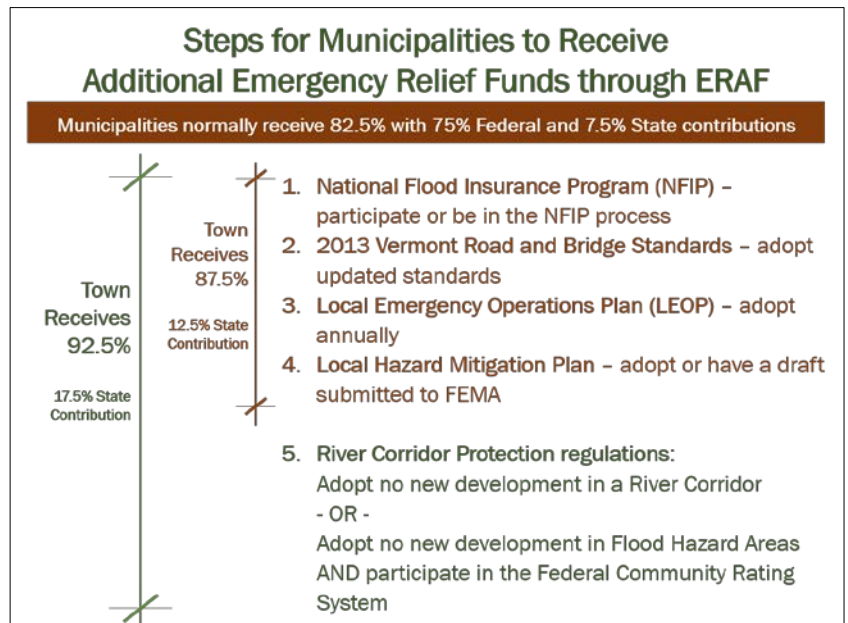
Even with these state regulations, municipal river corridor protection bylaws offer the most comprehensive approach to preventing development in locations that are likely to increase flood damage.

Help and Incentives Available

[Contact a state floodplain manager](#) or [regional planning commission](#) for assistance in adapting the model regulations or to obtain a Word version to adapt. For municipalities that adopt river corridor bylaws, ANR staff is also available to provide technical reviews and recommendations on any local applications for a permit to develop in the river corridor.

Vermont Emergency Relief and Assistance Fund (ERAF)

Following federally-recognized disasters, public assistance funding is released to help municipalities cover their financial losses, typically covering 75% of eligible costs. The Vermont [Emergency Relief Assistance Fund \(ERAF\)](#) provides further relief by adding funds (7.5%) toward the non-federal portion, leaving 17.5% of the cost of repairing local roads and facilities to municipalities. As of October 23, 2014 municipalities can take four or five specific mitigation steps to reduce flood damage are eligible for more emergency relief funding through ERAF. By adopting river corridor protection regulations in addition to the four other measures, municipalities are eligible to receive maximum disaster assistance funding.



Besides the funding benefits under ERAF, each of the four required elements are beneficial on their own. Municipal membership in the NFIP enables residents to secure flood insurance, which is required if a federally-backed mortgage is sought for the property. It also lowers rates for all flood insurance policy holders in the municipality. The updated road standards may have a short-term financial impact on the municipality, but long-term will ensure less flood damage occurs. Preparing for flooding and other emergencies, by adopting a Local Emergency Operations Plan and a Hazard Mitigation Plan will help promote safety of residents during a disaster, reduce the damage and speed recovery.

Community Rating System

Municipalities can also consider joining the Community Rating System (CRS). The CRS is a voluntary program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions. For CRS participating communities, flood insurance premium rates are discounted between 5% and 45%. In Vermont, Brattleboro, Bennington and Montpelier currently participate in the CRS program.

Flood Resilience Checklist

The Regional Planning Commissions use a flood resilience [checklist](#) when municipalities are developing municipal plan updates to ensure that flood resilience is front and center in the minds of local decision makers and that plans, policies and program updates are identified and prioritized.

This checklist includes overall strategies to improve flood resilience, as well as specific strategies to conserve land and discourage development in river corridors; to protect people, businesses, and facilities in vulnerable settlements; to direct development to safer areas; and to implement and coordinate stormwater management practices throughout the whole watershed.

TERMS USED FOR RIVER CORRIDOR REGULATION

Terms used for floodplain and river corridor protection can be confusing. Technical definitions need to be relied upon when writing regulations but this offers a quick overview of the most commonly used terms.

100 YEAR FLOODPLAIN = FLOOD HAZARD ZONE = SPECIAL FLOOD HAZARD AREA

These terms refer the flood hazard areas defined by NFIP Flood Insurance Map Program, most commonly called the 100 year floodplain. In local zoning regulations they are often referred to as Flood Hazard Zones. FEMA currently refers to the mapped floodplains as Special Flood Hazard Areas.

MEANDER BELT = FLUVIAL EROSION HAZARD AREA (FEH) = RIVER CORRIDOR PROTECTION AREA (RCPA)

This is the land along a river or stream, defined according to specific technical guidelines to indicate the likely area where a river channel is likely to move and erode the land. Meander belt is used for descriptive purposes, FEH for technical studies and planning and RCPA is the term used in Vermont statutes.

MEANDER BELT + RIPARIAN BUFFER = RIVER CORRIDOR

River Corridors for the purposes of regulation are defined as the meander belt of a river or stream with an added riparian buffer on either side to ensure the stability of banks.