



River Corridor Protection 101

Because of Vermont's hilly landscape, flood damage to businesses, homes, roads and other infrastructure is more often caused by the erosive force of fast-moving water rather than from the rise and spread of flood water. Federal maps of areas that flood that are used for flood insurance only address inundation risk. Vermont learned the hard way from Tropic Storm Irene and numerous other storms that rivers and streams need room to move, and if they are constricted by development along river banks, erosion damage will occur. The solution? Define and protect river corridors – land along rivers where raging waters have room to expend their force and overflow the banks without destroying lives and property.

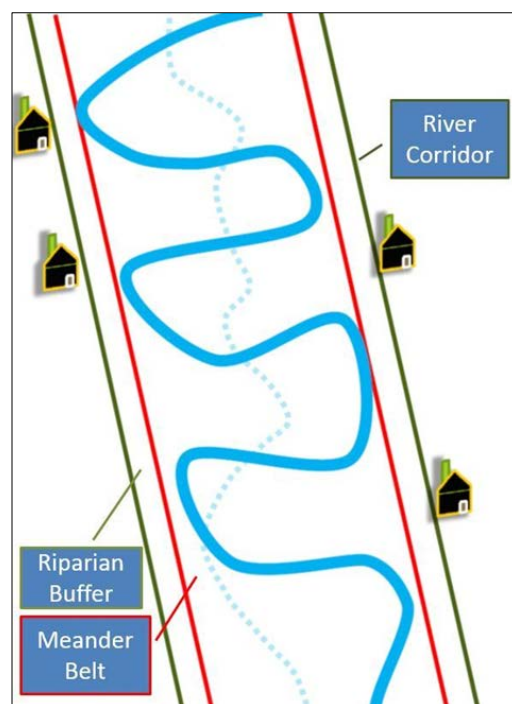
Why it Matters

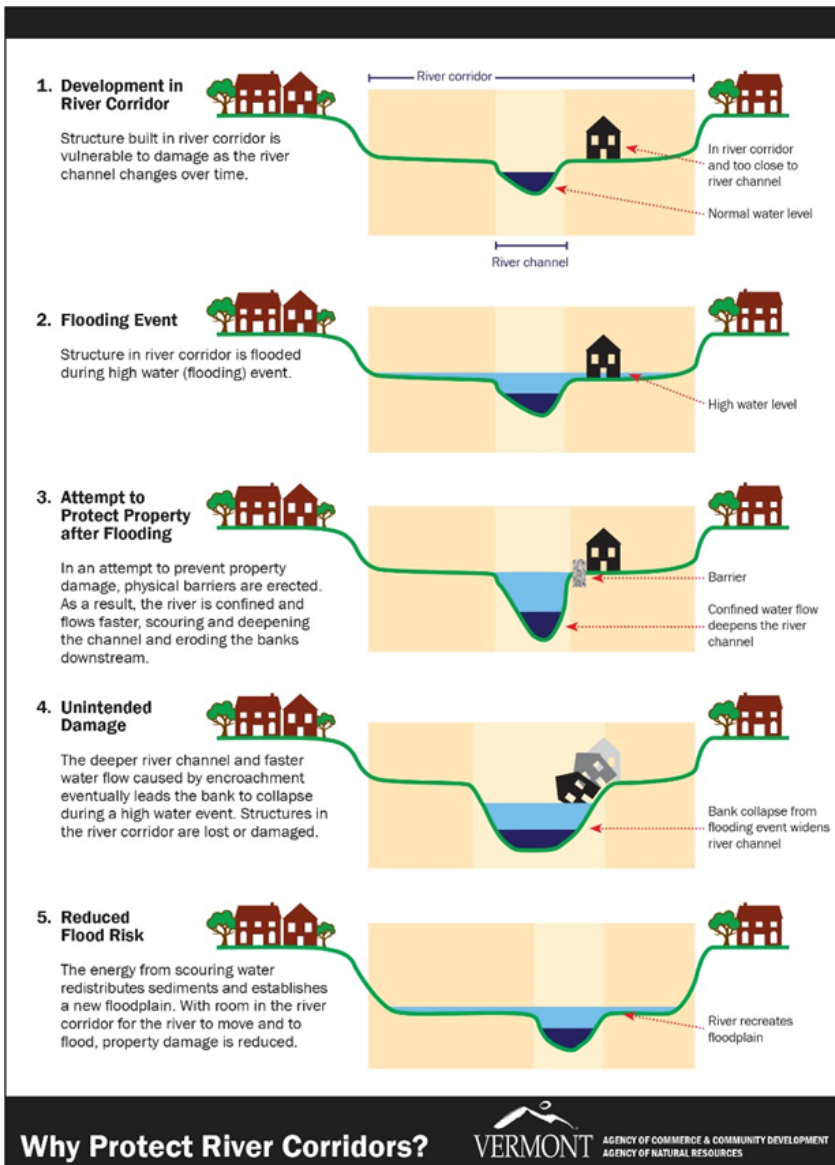
Most of the damage from natural hazards in Vermont is due to the erosive power of fast moving water that can destroy homes and businesses, but most of all, damaging roads, culverts and bridges. For individuals and communities this not only creates an unscheduled budgetary crisis but it also affects emergency response, public safety, and the ability of people to get to work, school and services.

River corridor protection allows streams and rivers to achieve greater stability, maintain the ability to release flood waters in places where there are not structures to damage and reduce the stream's erosive volume and power before arriving at a vulnerable culvert or a village. Vermont state statutes recognize river corridor protection as a key statewide strategy to reducing state, municipal, and private losses due to flooding.

How to Identify and Use River Corridors

River corridors are identified through a technical exercise that identifies a "meander belt" based on the length, width and slope of a river and the shape and the geologic composition of the river valley. The meander belt defines a corridor that gives the river some "wiggle room." A river flowing through steep bedrock walls will likely be contained but when it reaches a plain of gravelly soils the channel is likely to move over time. Some communities have delineated the corridors within which the river channels are likely to move. These meander belts are also referred to as fluvial erosion hazard (FEH) areas.





Rivers that were straightened or have had roads structures or berms built on the banks lose their natural stability because they no longer have room to meander and access open land where floodwaters can spread and energy can dissipate. With an appropriate amount of land adjacent to an unstable river, it can eventually develop a stable meander pattern. Meanders may shift within the corridor over time, but the river will be less susceptible to dramatic channel movements and extreme erosion.

In addition to the meander belt or FEH, a river corridor needs additional protection to ensure that the banks of the river corridor maintain their stability. This creates added setback space for development so that when a meandering river moves to the edge of the meander belt, there is still room for a naturally vegetated buffer that can resist further stream bank erosion.

The Vermont Rivers Program established [procedures for river corridor protection](#) on how they are mapped, used in state regulatory proceedings and how to apply in municipal planning. The State also produced Statewide River Corridor

mapping to help developers, landowners and municipal officials see where flood risks are likely and where additional permitting restrictions may apply. The State River Corridors can be viewed on the [Flood Ready Atlas](#).

The river corridor maps are helpful to municipalities in preparing hazard mitigation plans and the flood resilience element of the municipal plan. Municipalities are strongly urged to adopt river corridor protection regulations to better protect the community and to qualify for the maximum public assistance funds after a disaster.

Municipalities can also work to reduce flood damage by conserving land in River Corridors and restoring of floodplains. For more information about River Corridors, see [Frequently Asked Questions](#) on the [Vermont Flood Ready](#) site.