

Dredging Makes Floods More Dangerous

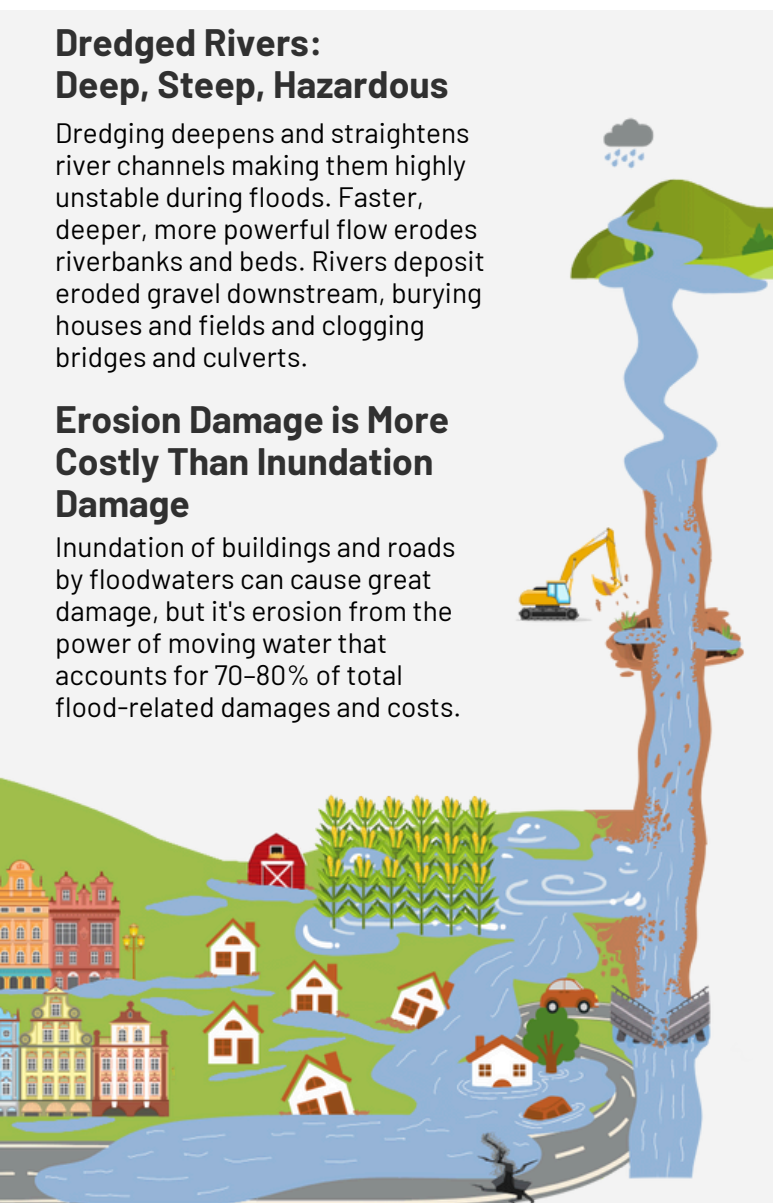
As towns, cities, farms and roads developed across Vermont over the centuries, 75% of our rivers became disconnected from their floodplains, making them highly unstable to this day. Dredging is the practice of scooping up all the gravel from the river bottom and clearing out any fallen trees. It was once believed that clearing out the channel would help contain all the floodwaters, but it hasn't delivered the results we need. Unfortunately, these deeper, straighter, steeper channels move more water at higher speeds. They are also stronger, causing more destruction of roads, homes, and businesses. Flooding is an inevitable natural event that will only get worse with climate change. The good news is we have the knowledge and expertise to reshape how we manage our rivers to keep our communities safe! By reconnecting rivers to their floodplains, we give floodwaters the room they need to spread out and slow down, reducing erosion damage.

Dredged Rivers: Deep, Steep, Hazardous

Dredging deepens and straightens river channels making them highly unstable during floods. Faster, deeper, more powerful flow erodes riverbanks and beds. Rivers deposit eroded gravel downstream, burying houses and fields and clogging bridges and culverts.

Erosion Damage is More Costly Than Inundation Damage

Inundation of buildings and roads by floodwaters can cause great damage, but it's erosion from the power of moving water that accounts for 70-80% of total flood-related damages and costs.



Risk to Homes and Infrastructure

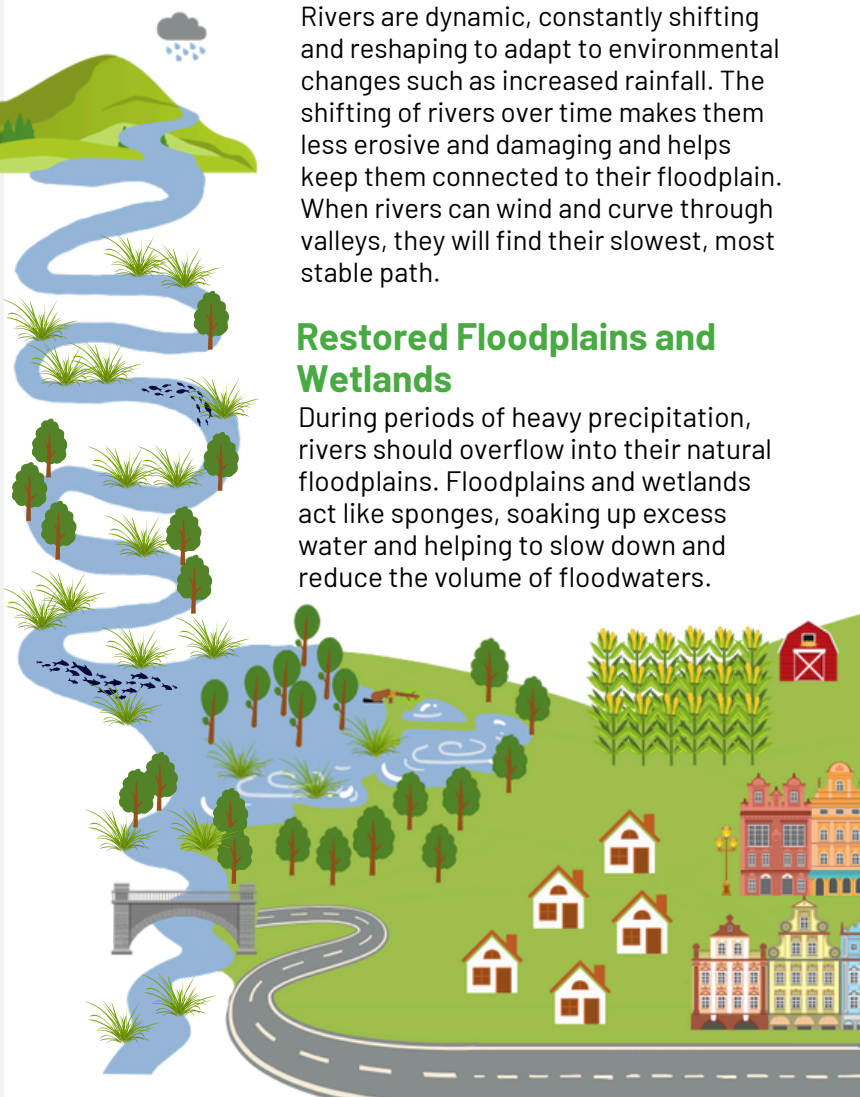
In Vermont, we historically constructed many of our buildings and roads in high hazard flood zones along rivers. Flood-related disasters in Vermont cost taxpayers over \$30 million annually, and many residents are repeatedly forced to evacuate their homes due to flood damage.

Connected River-Floodplains: Shallow, Slow, Stable

Rivers are dynamic, constantly shifting and reshaping to adapt to environmental changes such as increased rainfall. The shifting of rivers over time makes them less erosive and damaging and helps keep them connected to their floodplain. When rivers can wind and curve through valleys, they will find their slowest, most stable path.

Restored Floodplains and Wetlands

During periods of heavy precipitation, rivers should overflow into their natural floodplains. Floodplains and wetlands act like sponges, soaking up excess water and helping to slow down and reduce the volume of floodwaters.



Protected River Corridors

A corridor is the land surrounding a river where the river channel will naturally shift over time. This can happen through gradual changes or sudden, erosive events like flooding. Limiting new development in floodplains and river corridors—where erosion is expected—significantly reduces future flood damages and the adversity experienced by Vermonters. This also saves taxpayers millions in flood damage repairs and emergency response.

Alternatives to Dredging

Invest in Nature-Based Solutions

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Protect and Restore

Wetlands, floodplains and river corridors all work together to maintain the natural equilibrium of our waters when protected and restored. Wetlands act like natural tubs, storing floodwaters and slowly releasing them, which helps reduce downstream flooding. Floodplains give floodwaters more space to soak into the ground, slow down and moderate the most dangerous peak flows. Rivers are the ultimate connectors, allowing for the transportation of wildlife and nutrients. When these components of riverscapes are protected from development and restored to function as they were naturally designed to, nearby communities are more resilient to flooding.

Upgrade Infrastructure

Aging, undersized infrastructure can't handle today's floods. Replacing culverts with larger ones allows more water to pass through during heavy rains, reducing road blowouts. Removing old, crumbling dams protects downstream towns from catastrophic dam failure. Rain gardens, permeable pavements and green roofs all capture and filter stormwater, letting it soak into the plants and soils that prevent runoff and ease the load on stormwater systems. These upgrades not only mitigate flood risks but also improve water quality, support biodiversity, and are visually appealing.

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Wood is Good

Standing trees and downed wood act like a skeletal system for rivers, strengthening them and reducing the risk of hazardous erosion. Adding wood to streams is a growing practice to slow down and divert floodwaters into a river's floodplain. These floodplains act as a natural sponge and filtration system, soaking up water and filtering out pollutants. Added wood also creates habitat for fish and other aquatic species. One example is 'Strategic Wood Addition,' a technique that mimics natural log jams – a replica of nature's own solutions to flooding events.