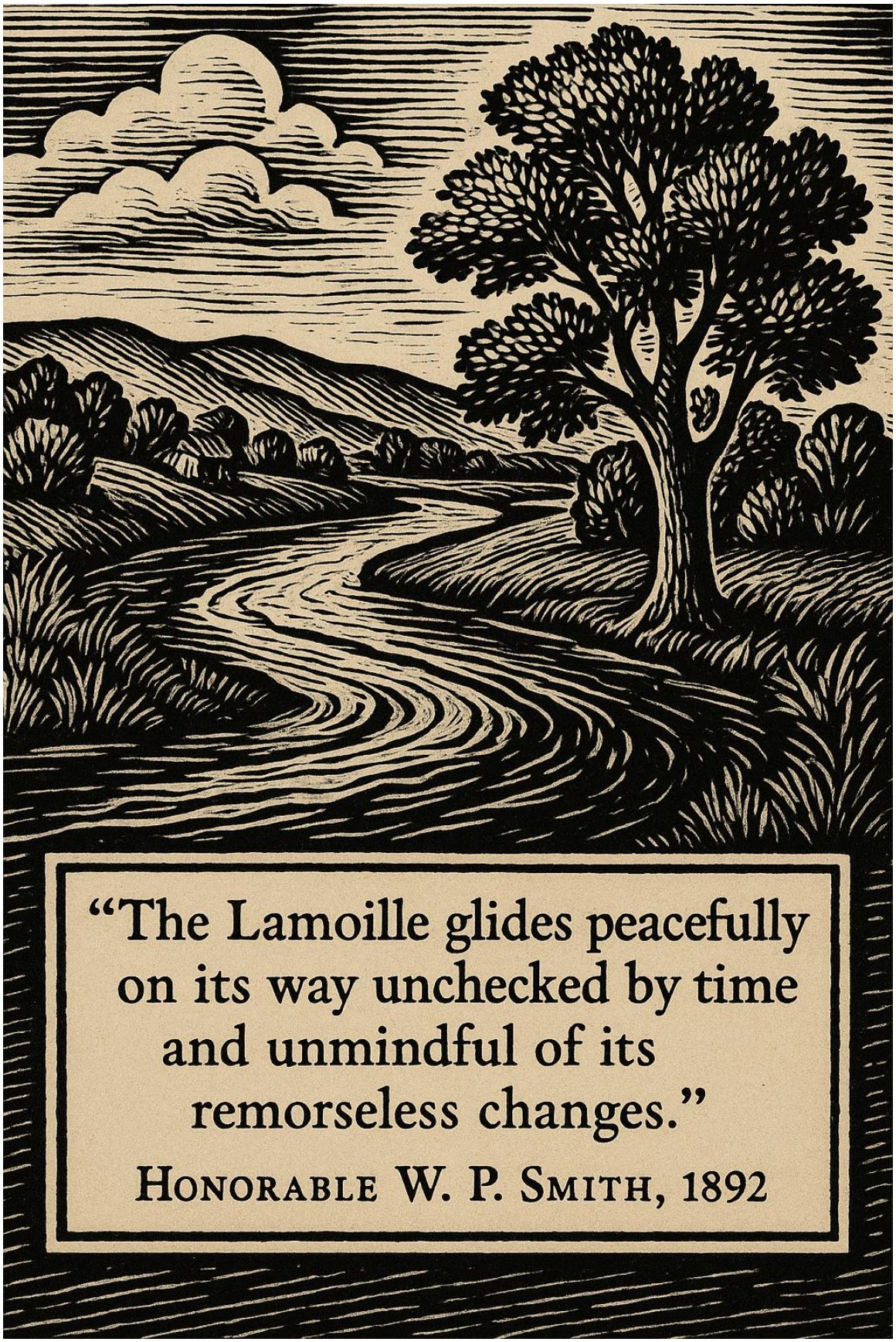

"The Lamoille glides peacefully
on its way unchecked by time
and unmindful of its
remorseless changes."
Honorable W. P. Smith, 1892

Reimagining Resilience and Recovery

Hardwick's Climate Response Through Place-Based Case Studies

Hardwick is undergoing a cultural, physical, and ecological shift in how we prepare for and respond to a changed climate. Like many mill towns in Vermont, our history and geography are inseparable. Mills, factories, homes, and roads were built close to water, exactly where today's climate volatility hits hardest.

For generations, the rural understanding of grit meant staying in place and resisting the river. Holding on was seen as strength, and rebuilding after every storm was the expected response.

But the climate has changed, and the river has changed with it.
Hardwick's understanding of resilience is changing too.

We are learning that walking away can be a sign of strength, not failure, especially when it protects lives, financial stability, and long-term community health.

We are learning that grit includes adaptation, not just endurance.

We are learning that resilience is not always rebuilding on the same footprint, but rebuilding with the river, giving water the space it needs and people the safety they deserve.

This shift is grounded in lived experience from repeated floods, informed by hydraulic modeling, shaped by our historic development patterns, and strengthened by the recognition that community cohesion**,** health, and safety matter more than preserving every structure.

It is a practical shift.
It is also a cultural one.

And together, these changes define Hardwick's approach to Reimagining Resilience and Recovery.

Historical Layer: Why Hardwick Is Built Where It Is

Hardwick's current climate challenges cannot be understood without looking at how the town originally formed. Like many Vermont communities, Hardwick grew around waterpower. Mills, factories, bridges, and worker housing were intentionally placed close to the Lamoille River and Cooper Brook. These waterways supported economic life for more than a century, but they also established development patterns that now carry significant risk.

Decisions that once made sense, building in narrow valleys, placing homes along brook edges, filling low areas to create flat land, now amplify the impacts of today's storms. Many of our constraints are inherited:

- Narrow valleys limit where water can safely go
- Homes and businesses sit within feet of rising streams
- Old mill infrastructure and bridge abutments create pinch points
- Drainage systems were built for a different era and smaller storms
- Historic fill and berms alter how floodwaters move and accumulate

We cannot change where Hardwick began, but we can change how we respond to the realities created by that history. Understanding these roots helps us make practical, forward-looking decisions about land use, infrastructure, and safety.

This is not about undoing the past. It is about recognizing its impact and planning for a different future.

Hardwick's Resilience "Campus": A Community-Wide Safety Net

Resilience in Hardwick is not defined by a single emergency shelter or command center. It is defined by a network of places, organizations, and people that work together before, during, and after disruptions. We think of this network as a **resilience campus** – a cluster of hubs and services located within a walkable area, connected to neighborhoods by the LVRT and by local roads.

Our resilience campus includes:

• **Jeudevine Memorial Library** – cooling, charging, communications, and public gathering
• **Memorial Building - Town Hall / Emergency Operations Center** – coordination, alerts, information, planning
• **Community Center / Police Department** – staging space, support functions, flexible shelter use
• **Hardwick Food Pantry** – immediate access to essential supplies
• **Center for an Agricultural Economy (CAE)** – food system stability and community partnerships
• **NEKO** – mutual aid, volunteer surge capacity, emergency support
• **Hardwick Neighbor to Neighbor (HNtN)** – neighborhood teams, wellness checks, supply distribution
• **Hazen Union and Hardwick Elementary** – formal sheltering and mass-care capability
• **Town Garage, Hardwick Electric, Hardwick Rescue, and Hardwick Fire** – operational backbone during emergencies

These entities function independently day-to-day, but during a crisis they form a coordinated, flexible system that supports residents across multiple needs: safety, food, communications, mobility, and emotional well-being.

The campus model also reflects a key advantage of small towns: many essential services sit close together, making them accessible on foot, even when roads are compromised.

This network is not accidental - it has grown through repeated experience, collaboration, and shared commitments. It allows Hardwick to respond quickly, adapt in real time, and support not only our own residents but also people from neighboring towns who rely on Hardwick during emergencies.

The LVRT as a Spine for Safety, Mobility, and Climate Connection

The Lamoille Valley Rail Trail (LVRT) is often described as a recreation asset, but in Hardwick it serves a much broader purpose. It functions as a **climate resilience spine,** a corridor that connects neighborhoods, hubs, and services in ways that roads alone cannot reliably provide.

During flood events, certain roads and bridges can close quickly. The LVRT offers an alternative route that remains walkable and rideable across seasons, giving residents a safe way to move between East Hardwick, Downtown, and the Wolcott Street Commercial District.

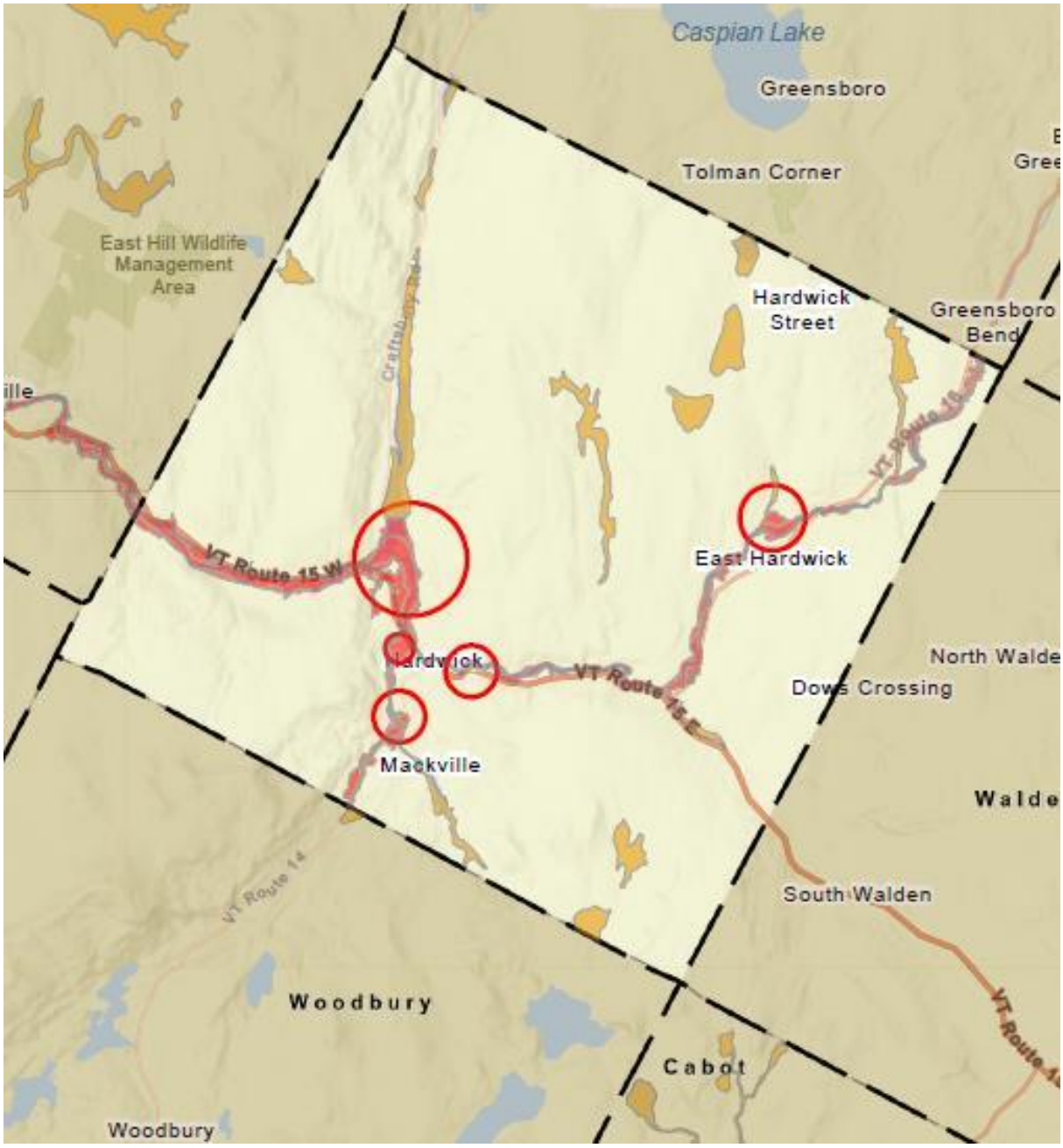
Its value extends beyond emergencies:

- It supports low-emission travel for people walking and biking
- It provides a quiet, safe connection to the heart of town
- It remains usable in multiple seasons - bike, foot, ski, horse, snowmachine
- It strengthens access to Hardwick's resilience campus
- It ties our built environment more closely to the river system we depend on

Because the LVRT runs parallel to the Lamoille, it gives us a clearer view of how our land, water, and mobility networks intersect. In a changing climate, this kind of infrastructure, simple, reliable, accessible plays a meaningful role in how the town stays connected and supported.

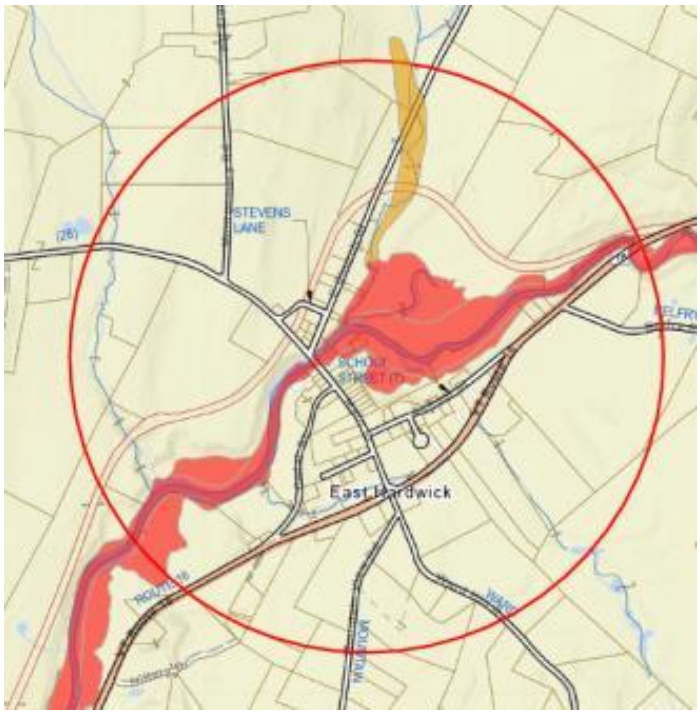
CASE STUDIES

Each of Hardwick's neighborhoods has a distinct relationship to the river, climate impacts, and the resilience campus. Together, these case studies illustrate how Hardwick is adapting in place.



Case Study 1: East Hardwick

River Constriction • Upland Influence • Neighborhood Cohesion



East Hardwick sits at a transition point in the river system. The narrowing of the Lamoille River near the bridge creates a natural pinch point, which can increase downstream flood depths during major storm events. The village's small size and historic layout give it character but also create vulnerabilities during extreme weather.

Issues

• The Main Street bridge constriction amplifies downstream flooding, especially during high flows
• Prolonged cold spells stress older homes with aging heating systems
• Heat waves disproportionately affect older residents who live alone or without cooling options
• High-water events can limit evacuation routes and isolate parts of the village
• Two expected buyouts may provide space for future stormwater restoration

Positives

• East Hardwick has strong neighborhood identity and close communication among residents – the East Hardwick Neighborhood Organization is well established.
• People have a long, practical understanding of how the river behaves during storms
• The LVRT gives the village another mobility option when roads are compromised

Adaptive Shifts

• Evaluating bridge and channel dynamics to understand opportunities for reducing constriction impacts
• Exploring the potential for upland water storage and wetland restoration to slow runoff
• Supporting a neighborhood-centered approach to alerts, check-ins, and emergency coordination

East Hardwick illustrates how a small village with strong social cohesion can adapt effectively when the physical constraints of historic settlement meet the realities of a changing climate.

Case Study 2: Downtown Hardwick

Walkable Core • Brush & Mill Street • Essential Services

Downtown Hardwick is the center of daily life for residents across several surrounding communities. Its compact design, walkability, and mix of essential services make it a natural hub but it also neighbors the Lamoille River, which no longer behaves as it once did.

This combination leads to repeated erosion and flooding along Brush Street, and Mill Street.

Issues

• Aging stormwater systems were not designed for current rainfall intensity

• Prolonged heat or cold places additional stress on older structures
• Key services, shops, offices, and restaurants, are located in near areas prone to flooding
• Downtown disruptions affect not only Hardwick but nearby towns that rely on its services

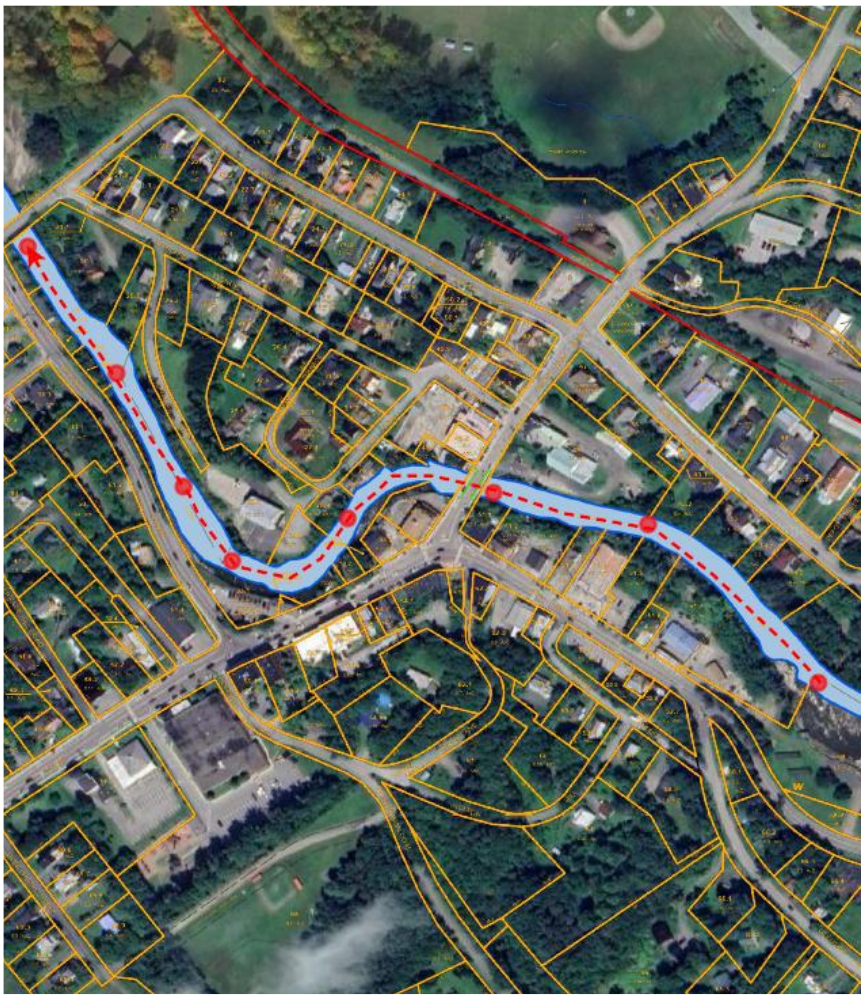
Positives

• Downtown's size and layout make it highly walkable and easy to reach, even in difficult conditions
• Buyouts on Brush Street and Mill Street create space for the river and reduce repeated damage
• The LVRT crosses directly through downtown, supporting safe foot and bike travel during emergencies

Adaptive Shifts

• Transitioning buyout parcels into open space, habitat, and potential floodplain reconnection areas
• Launching a CDBG-DR Downtown Corridor Study that will examine infrastructure, access, resilience infrastructure, and the long-term relationship between the river and the built environment
• Reassessing the placement of essential services to ensure that critical operations can continue during storms

Downtown Hardwick shows how a walkable, compact center can evolve its infrastructure and land use to meet the realities of a new climate while still serving the broader region.

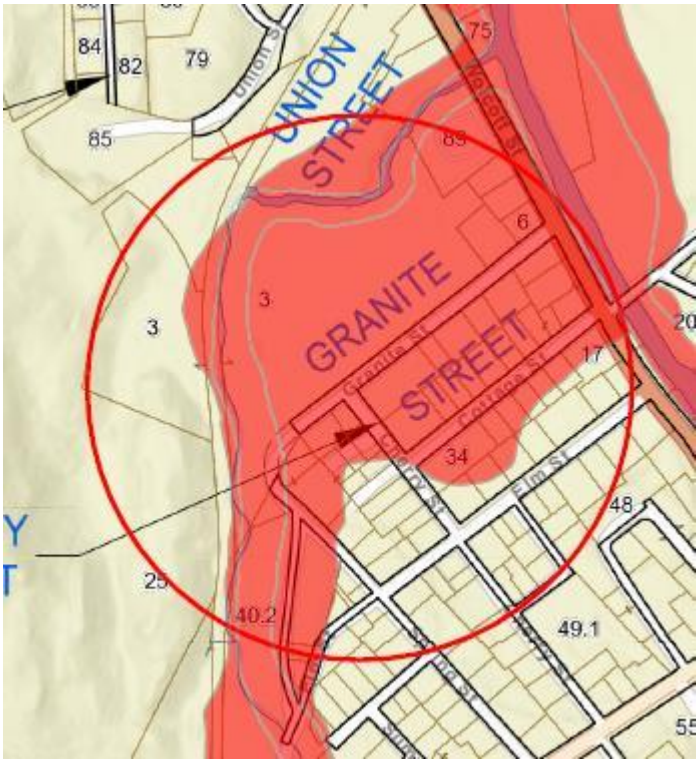


Case Study 3: Granite Street Historic District

Two Waterways • Tight Housing • Vibrant Neighborhood

The Granite Street Historic District sits between the Lamoille River and Cooper Brook- two waterways that rise and fall differently but can act together during storms. The neighborhood is dense, historic, and beloved, but its physical layout leaves little margin when water levels rise.

Repeated flooding, limited evacuation windows, and aging mechanical systems have made this neighborhood a priority for localized, practical mitigation.



Issues

• The neighborhood is bordered by two water bodies, increasing exposure during storm events
• Many homes have older basements and mechanical systems that are particularly vulnerable
• High temperatures intensify heat stress in tightly spaced, older homes
• When bridges and roads close, the neighborhood has limited access points.

Positives

• The Granite Street Neighbors group provides strong, organized communication and local leadership
• Collaboration among residents, the Town, CAE, and SLR builds trust and shared problem-solving
• The neighborhood sits within walking distance of the resilience campus - Library, Memorial Building, Community Center, Schools, and Food Pantry

Adaptive Shifts

• Elevating mechanical systems and improving drainage to reduce repeated damage
• Exploring a neighborhood-scale early-warning system, including siren options
• Developing a model that can guide other small villages facing similar constraints

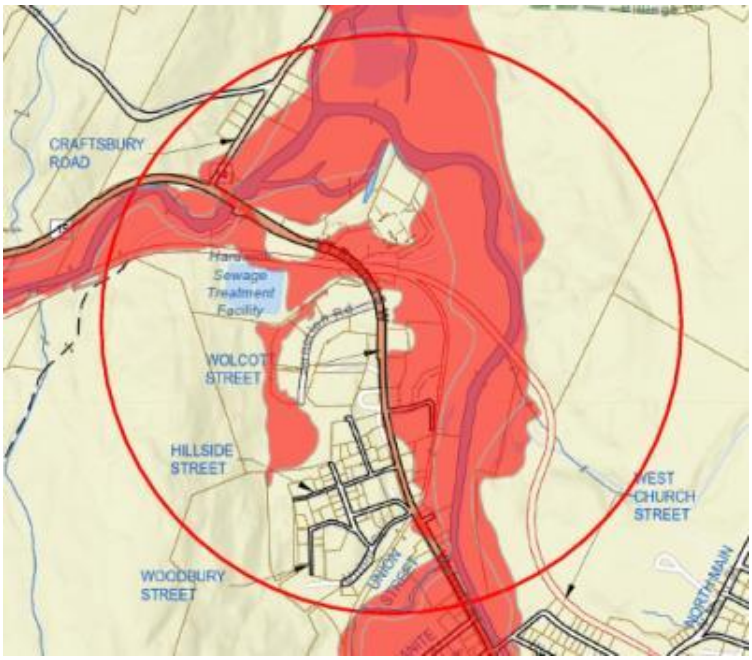
Granite Street embodies what it means for a historic neighborhood to adapt in place—respecting the character of the area while taking practical steps to protect residents during a changing climate.

Case Study 4: Wolcott Street Commercial District

Rail Trail Interactions • Essential Services • Downstream Effects

The Wolcott Street Commercial District sits at a critical point in the Lamoille River system. It is both a commercial gateway and a location where river behavior, transportation infrastructure, and human activity intersect in complicated ways. In recent years, flooding has intensified here, affecting businesses, mobility, and access to essential services.

Sawmill Lane, just upstream, has experienced repeated damage, leading to multiple buyouts and creating an unexpected opportunity to restore part of the river's natural function.



Issues

• The LVRT embankment unintentionally acts as a barrier, increasing flood depths in the commercial corridor
• Flooding has contributed to the loss of key services, including the region's only pharmacy
• Stormwater systems are aging and undersized for current precipitation patterns
• Heat waves create additional stress for commercial equipment and workers
• This corridor forms a major connection between Downtown Hardwick and Route 15, making disruptions more far-reaching

Positives

• The intersection of LVRT, Route 15, and the commercial district creates a natural multi-modal node
• The Sawmill Lane buyout cluster opens the door for meaningful upstream restoration and flood storage
• Property owners in this corridor are highly engaged and motivated to reduce repeated loss
• The area's proximity to the LVRT supports low-emission travel and alternative access

Adaptive Shifts

• Exploring the **Sawmill Park** concept, combined recreation and flood-storage area that improves hydraulic performance
• Using the hydraulic modeling results to understand and address constriction caused by the LVRT

embankment
• Improving pedestrian and bicycle access to reduce vehicle dependency and enhance overall corridor safety
• Coordinating commercial resilience planning with upstream and downtown mitigation efforts

The Wolcott Street Commercial District illustrates how climate resilience intersects with economic vitality. Addressing the physical constraints here - while strengthening access, mobility, and safety - will benefit not only businesses but the entire community.

How Hardwick Is Culturally Reimagining Resilience

Hardwick's resilience work is not only about infrastructure, land use, or modeling. It is also about how people understand risk, make decisions, and support one another as the climate changes. This cultural shift shapes how we talk about resilience, how we plan, and how we respond during difficult moments.

1. Grit Theory = Adaptive Strength

Rural communities often define grit as staying in place and enduring hardship. But in a changing climate, resilience sometimes means choosing differently. For some residents, accepting a buyout or relocating is not a sign of giving up—it is a deliberate, courageous act to protect family, finances, and long-term well-being.

This reframing helps remove stigma and acknowledges that strength can take many forms.

2. Recovery Is Not Always Rebuilding in Place

Historically, "recovery" meant rebuilding where damage occurred. Today, recovery includes adapting to natural systems, making room for the river, and recognizing when certain locations are no longer safe or sustainable.

This shift allows the community to prioritize health and safety while reducing repeated loss.

3. Flexibility Over Hierarchy

Hardwick's resilience network works because it is flexible. Formal municipal roles and informal volunteer networks operate side by side, each contributing skills, relationships, and local knowledge.

This hybrid structure, neither strictly top-down nor entirely decentralized, creates a system that can adjust quickly as conditions change.

4. Meeting People Where They Are

Meeting residents "where they are" means respecting their choices, timelines, and emotional landscape. Flood damage and climate stress carry real trauma. Some people are ready to move forward quickly; others need time. Some want to stay; others are considering leaving.

Hardwick's approach recognizes that resilience requires listening, acknowledging loss, and supporting different pathways without judgment.

5. Watershed Perspective, Not Town or County Lines

Rivers do not follow municipal boundaries, and resilience work cannot either. Hardwick increasingly plans with a watershed lens, coordinating with upstream and downstream communities regardless of town or county lines.

At the same time, we honor the town's historic structures and settlement patterns while recognizing that future decisions must reflect today's climate reality—not the one our infrastructure was built for.

Summary: Challenges We Face Moving Forward

Hardwick's progress is real, but so are the constraints that shape how quickly and effectively we can adapt. Many of the challenges we face are not local problems, they are structural, system-wide issues that every rural community is navigating.

1. Human Boundaries vs. River Systems

Rivers move across towns, counties, and jurisdictions without regard for the lines on our maps. Flooding is a watershed-scale issue, but the responsibility for action often falls on individual municipalities. This mismatch affects planning, funding, communication, and implementation.

Hardwick must solve river problems that extend far beyond its borders, often without the cross-jurisdictional tools needed to match the scale of the challenge.

2. A Shifting Funding Landscape

Climate-related funding is contracting and the rules, requirements, and timelines change frequently. Small towns with limited staff are expected to navigate complex grant systems, manage multiple projects simultaneously, and compete with larger communities.

This creates delays, administrative strain, and the constant need to adapt to new program structures midstream.

3. State and Regional Planning Without Municipal Voices

Hardwick often learns about state or regional initiatives after key decisions have been made—even when these decisions affect our infrastructure, waterways, or emergency response capacity. This gap in communication can create confusion and missed opportunities for alignment.

Municipal insight is essential to effective climate planning and strengthening that connection will benefit both the town and the broader region.

4. Infrastructure Built for a Climate That No Longer Exists

Many elements of our transportation, stormwater, and utility systems were designed for a different era—one with smaller storms, colder winters, and less variability. Every major storm exposes the limits of infrastructure that is aging and undersized for the pace of today's climate change.

Updating these systems is a long-term effort that requires sustained investment and coordination.

Structural Weaknesses and Unmet Needs: Reframing Infrastructure

Hardwick's greatest ongoing challenge is adapting infrastructure that was designed for a climate that no longer exists. Roads, bridges, culverts, and embankments were built for predictable hydrology, smaller storm events, and stable seasonal patterns. Today, those assumptions no longer hold.

Infrastructure Treated as Fixed Rather Than Adaptive

Current funding, regulatory, and planning systems generally assume that damaged infrastructure should be repaired or replaced in the same location. This approach prioritizes continuity but often overlooks how repeated repairs can reinforce risk.

In several locations, infrastructure now:

- experiences repeated damage,
- constricts river movement,
- increases flood depth or velocity upstream or downstream,
- places residents and emergency responders at risk.

Treating infrastructure as fixed, rather than adaptable, can unintentionally lock communities into cycles of damage and recovery.

The Challenge of "Walking Away" from Infrastructure

Just as buyouts have reshaped how communities think about housing in flood-prone areas, climate adaptation increasingly requires a difficult conversation about infrastructure.

Walking away from a road or bridge, or choosing to relocate, redesign, or decommission it, can feel unthinkable. Infrastructure carries functional, historical, and emotional weight. It represents access, continuity, and investment.

However, resilience planning now requires asking:

- Does this structure still serve its intended purpose safely?
- Does it increase flood risk elsewhere in the system?
- Are there alternative configurations or routes that provide safer, more reliable access?
- What are the long-term costs of repeated repair compared to relocation or removal?

The ability to ask these questions and act on them is one of the least developed but most critical needs in rural climate adaptation.

Policy and Funding Misalignment

Most infrastructure funding programs prioritize replacement over reconsideration. Even when relocation, downsizing, or removal would reduce long-term risk and maintenance costs, these options are often difficult to pursue within existing program rules.

Small towns like Hardwick need greater flexibility to:

- study alternatives to in-place replacement,
- evaluate decommissioning or right-sizing of infrastructure,
- align transportation, hazard mitigation, and ecological goals,
- plan infrastructure decisions at the watershed scale rather than parcel by parcel.

Without this flexibility, communities remain constrained to short-term solutions that may not align with long-term resilience.

Redefining Access and Mobility

Hardwick's experience demonstrates that access does not depend on a single road or bridge. Walkability, the LVRT, clustered services, and proximity between community hubs provide redundancy when traditional routes fail.

This network-based approach to access:

- reduces reliance on vulnerable assets,
- supports low-emission mobility,
- improves safety during extreme events,
- strengthens day-to-day community connectivity.

Expanding this mindset, where mobility is defined by systems rather than individual structures, is a key opportunity for future planning.

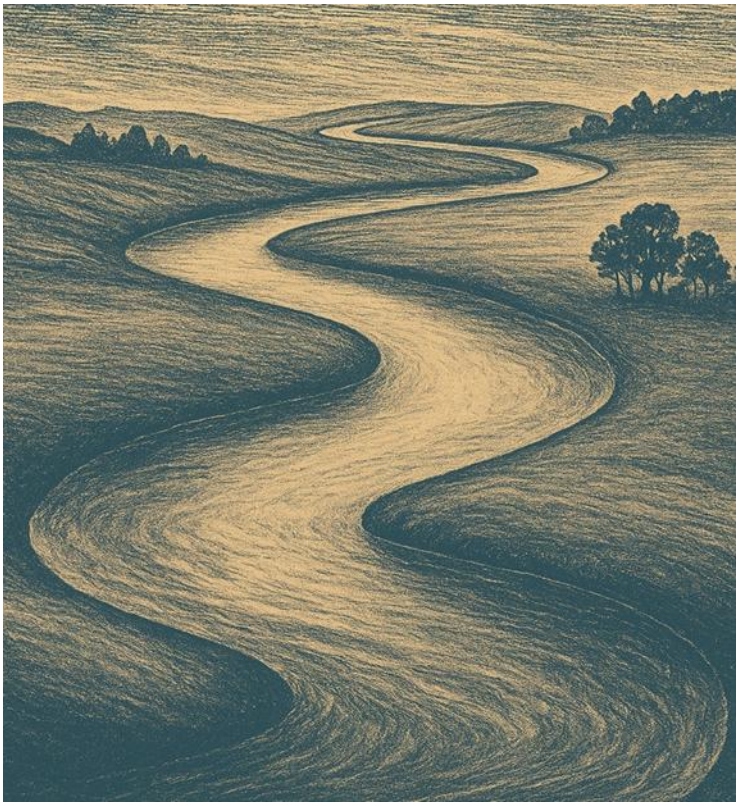
Reimagining resilience requires not only changing how and where we build but also recognizing when **not rebuilding** is the most responsible and forward-looking decision.

Closing Frame: Reimagining Resilience and Recovery

Hardwick's approach to resilience is rooted in the idea that people, places, and river systems must be understood together. This is not simply an infrastructure challenge; it is a shift in how we see ourselves, how we make decisions, and how we support one another.

We are building a model of resilience that:

• Lives within neighborhoods
• Moves along the LVRT
• Flows with the river rather than resisting it
• Anchors itself in a strong, interconnected resilience campus
• Welcomes collaboration with surrounding towns and partners
• Honors our history while preparing for a future that will look different from our past



Reimagining resilience and recovery is ongoing work.

It requires humility, flexibility, and steady partnership.

But this effort is shaping a community that is stronger, safer, and better prepared for the climate we live in now.

Hardwick's story is not just about responding to storms.

It is about adapting with intention and creating a future where the community can thrive—even as the landscape changes around us.

When Letting Go Is an Act of Strength

Last year, I stood in the backyard of a young woman who had bought her family home believing she was building her future in the place that raised her. In two years, she experienced six floods. She moved her car to higher ground six times. She watched her chickens scramble to the highest roost as water rose. She shoveled out mud repeatedly and asked every question a responsible homeowner is told to ask. Could she elevate the house? The structure was too damaged. Could she dredge the river? Technically yes, though the state's river scientist explained it would only buy time. She tried every option Vermonters are encouraged to consider. And still, the water kept coming.

Vermont often celebrates grit. We rebuild barns after fires. We restack stone walls after they fall. Grit is a familiar part of our identity.

After the 2023 and 2024 floods, Hardwick is learning another dimension of grit. Sometimes grit is the quiet strength to recognize when the river has shifted and when stepping back is the safest choice.

Hardwick has completed ten voluntary property buyouts. Four were funded through the Flood Resilient Communities Fund and six through FEMA. Another ten are in progress. These properties were not seasonal camps or speculative investments. They were homes where families lived, raised children, and planned their futures.

Leaving was rarely a simple financial decision. For many residents, it meant wrestling with loss, relief, and uncertainty.

One fact is often overlooked. Nearly all of the families who accepted buyouts stayed in our region. They moved to Calais, Greensboro, Eden, and Craftsbury. They purchased smaller homes, more energy efficient homes, and most importantly, homes outside floodplains and river corridors. We checked the flood and river corridor models before they bought or built. They wanted to remain part of their communities, just not in locations where the river kept reclaiming space.

Many also made their decisions with others in mind. They did not want future buyers to inherit repeated flooding or insurance struggles. They asked how the town would use the land and how it might help protect nearby homes. Community care guided their choices.

We have cultural work to do alongside the technical work of recovery. Many residents told us the hardest part was not paperwork but the idea that stepping back meant they had not tried hard enough.

Not every form of resilience looks like rebuilding in the same place. Sometimes resilience is recognizing risk clearly and choosing safety. Sometimes it is leaving a flood prone area so emergency responders are not repeatedly called back and so families do not have to shovel out basements again.

There has also been a rumor that buyouts caused recent tax increases. This is not correct. It was the flooding itself, including the damage, the lost assessed value, and the emergency costs, that was reflected in our grand list. Buyouts help stabilize finances over time because they prevent repeated loss and repeated taxpayer funded recovery cycles. They are not the cause of the fiscal challenge. They are one tool that reduces long term risk.

Vermont needs housing. But it needs safe housing. Buyouts support this by helping residents leave unsafe conditions and by restoring floodplain functions that can protect neighborhoods.

Hardwick is not alone in facing these questions. Communities across Vermont are considering where rebuilding is appropriate or not. They are working through how to support residents and how to discuss adaptation without shame or blame.

For those who have gone through it, a buyout is not simply a transaction. It is a decision shaped by memory, safety, and a sense of responsibility to community. In Hardwick, these choices have been made with honesty and care.

Sometimes grit looks like rebuilding. And sometimes it looks like listening to the land and choosing a safer path forward together.

About the author: *Kristen Leahy serves as the Zoning and Floodplain Administrator and Resilience and Adaptation Coordinator for the Town of Hardwick.*