From Recovery to Resilience: Lessons from Hardwick, Vermont

Connecting Properties, Neighborhoods, Communities, and Watersheds

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By Kristen Leahy, Resilience and Adaptation Coordinator – Town of Hardwick



This overview accompanies a presentation on Hardwick's experience following the 2023 and 2024 floods. It highlights lessons from ongoing municipal recovery and resilience work.

We Forgot That We Could Flood

One of the most important things we have learned in Hardwick is that communities can lose their collective memory of flooding.

Hardwick has a long history of floods. The Lamoille River and its tributaries have shaped the community for generations. Historical records document significant flood events, changes to the river, damaged infrastructure, and earlier efforts to manage floodwaters.

Over time, much of that knowledge faded from everyday community understanding.

People continued to live and work in places that had flooded before. Buildings were renovated, businesses changed hands, infrastructure aged, and new generations came to know the landscape as it appeared during relatively quiet years. The history was still there, in photographs, newspapers, and local archives, but it was no longer consistently informing how we understood our community.

By the time the July 2023 disaster arrived, we were not prepared for an event of that magnitude. Many residents did not recognize their own flood exposure. Our emergency planning had not kept pace with the risks we faced.

The repeated floods of 2023 and 2024 made those risks impossible to ignore.

More than 100 residential and commercial structures were affected. Roads and bridges were damaged, neighborhoods were inundated, businesses were disrupted, and essential infrastructure, including the Fire Station and wastewater treatment facility, experienced substantial damage.

The immediate task was recovery. People needed help cleaning out homes, securing assistance, repairing infrastructure, and figuring out what came next.

But as the disasters continued, we began asking questions that went beyond recovery.

Why were some places flooding repeatedly? What had changed in the watershed? What had earlier generations known that we had forgotten? How had roads, bridges, dams, development, and past river projects influenced the conditions we were experiencing?

And perhaps most importantly, what could we do differently so that we were not simply repairing the same damage after every flood?

Those questions began changing how we understood the problem.

We moved from individual properties to neighborhoods, from neighborhoods to the community, and ultimately to the larger watershed.

That shift has become the foundation of Hardwick's approach to flood resilience.

Inn by the River Location – Over the Years



1927



1973



2023

Geography Matters, but Administrative Boundaries Complicate the Work

Hardwick is in Caledonia County, but it is part of the Lamoille River watershed and the Lake Champlain Basin. Our work involves three VTrans districts, three regional planning commissions, four conservation districts, four Regional Emergency Management Committees, as well as state agencies and federal programs. The Lamoille Valley Rail Trail adds another layer of infrastructure and jurisdictional complexity.

None of those boundaries necessarily align with the way water moves.

One of our basic lessons has been that flood resilience cannot be organized solely around municipal boundaries, agency responsibilities, or individual funding programs. It must reflect the geography of the watershed and the communities within it.

That sounds straightforward, but implementation is considerably more complicated. Individual agencies and organizations have different authorities, funding requirements, geographic responsibilities, and priorities. No single entity is necessarily responsible for coordinating all the work taking place within a watershed.

As a result, municipalities often find themselves trying to connect projects, agencies, and funding programs that operate independently of one another. Yet we may have little authority over the infrastructure, land, or decisions involved, and limited staff capacity to manage that coordination.

Repeated Flooding Changed the Questions

Hardwick experienced federally declared disasters in July 2023, December 2023, and July 2024. Repeated disasters made it increasingly difficult to treat each event as an isolated emergency or each damaged property as a separate problem.

As we documented the impacts and worked with affected residents, we began to recognize how differently flooding had affected various parts of town. Some areas experienced inundation, others severe erosion, and still others faced stormwater problems, infrastructure damage, and loss of access.

That realization led us to organize much of our flood resilience work around five geographic areas: East Hardwick, Granite Street and Cooper Brook, Route 14 South, Wolcott Street and the commercial corridor, and downtown Hardwick.

Each area has its own combination of hazards, infrastructure vulnerabilities, and community needs. What makes sense in one neighborhood may not be appropriate in another.

Organizing the work geographically helped us better understand the extent of the impacts, identify shared problems, and connect engineering, land-use planning, emergency management, property-level mitigation, and public engagement to the conditions in each area.

It also helped us recognize that neighborhoods are an important scale for resilience planning. Individual properties are affected by shared drainage systems, culverts, flood storage areas, and infrastructure. Addressing those conditions collectively may be more effective than treating every flooded building as an isolated problem.

As our work has continued, we have begun considering rural and upland areas more explicitly. These areas present different concerns involving headwaters, forests, wetlands, working lands, roads, and runoff. They also influence conditions in the developed neighborhoods downstream.

This has reinforced our understanding that neighborhoods cannot be considered independently. They are connected by the same river system, and what happens in one area can affect conditions elsewhere.

That recognition has pushed us to look beyond individual neighborhoods and think more deliberately at the watershed scale.

Changing How We Regulate Development

One of Hardwick's responses to the 2023 floods was to revisit our land-use regulations.



Before the disasters, many of our flood hazard regulations reflected minimum requirements. The flooding demonstrated the need for stronger standards, particularly for building elevations and development in areas vulnerable to inundation and river erosion.

In 2024, Hardwick adopted updated floodplain regulations alongside changes intended to provide greater flexibility for housing development. In 2026, we subsequently added a River Corridor Overlay to address erosion hazards and help prevent new development from creating additional risk.

These changes required substantial public communication. River corridor regulations can affect properties that are not within the mapped floodplain, and residents needed to understand the differences between inundation and erosion hazards and what the new requirements would mean for their land.

The challenge has been to balance two important municipal priorities. Hardwick needs additional housing, but we also need to be careful about where that housing is built. Allowing more development in locations that are already vulnerable to flooding or erosion would create problems that future residents and municipal officials would inherit.

Land-use regulation cannot eliminate existing flood risks, but it gives us an opportunity to avoid creating additional ones.

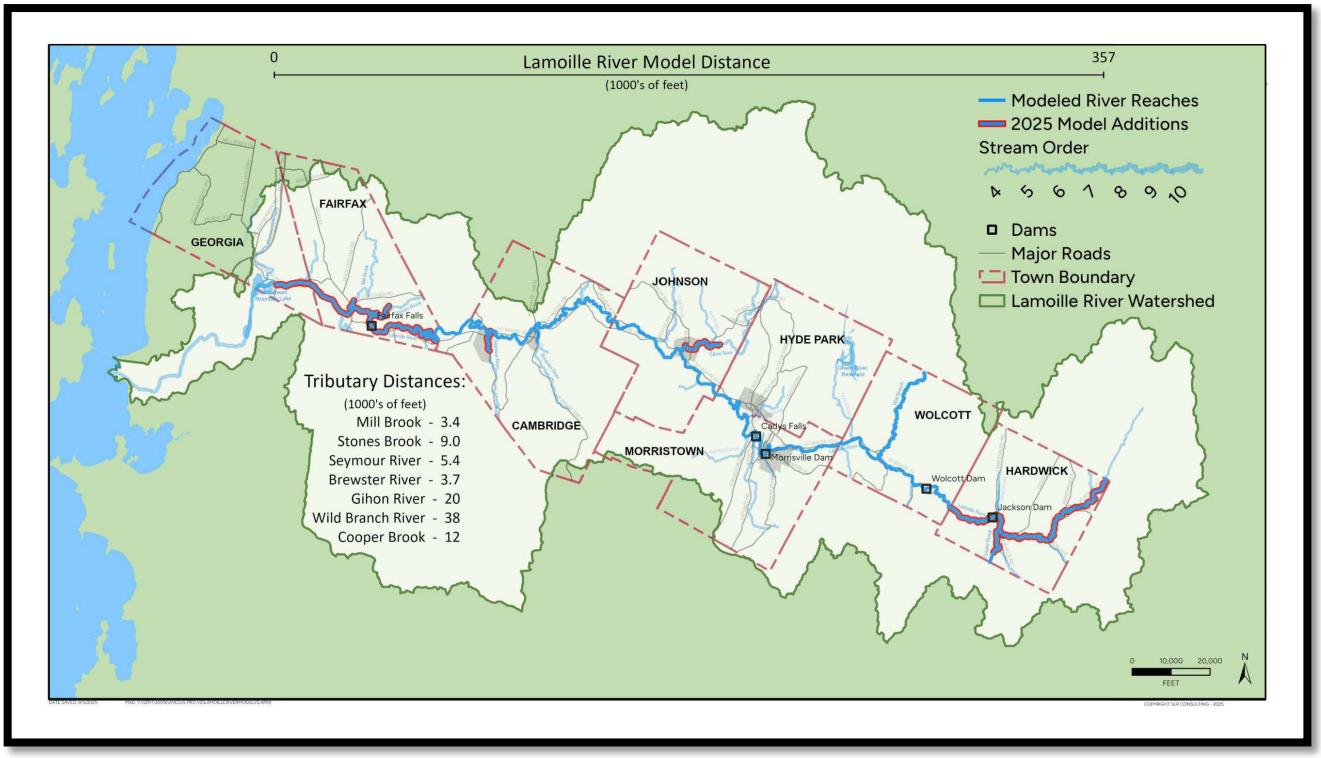
Understanding the Watershed as a System

Flooding does not begin when a river overtops its banks.

What happens upstream influences what happens downstream. Runoff, natural flood storage, sediment movement, channel conditions, and infrastructure all affect how water moves and where damage may occur.

That understanding has changed how Hardwick approaches flood mitigation.

The EDA-funded hydraulic modeling of approximately 12 miles of the Lamoille River and 1.5 miles of Cooper Brook has been especially important because it provides a shared technical foundation for understanding the river system.



Rather than examining Jackson Dam, the Lamoille Valley Rail Trail (LVRT), Sawmill Lane, Wolcott Street, the confluence, and proposed floodplain restoration as unrelated projects, we can now evaluate how these elements interact. The modeling allows us to ask questions that are difficult to answer through isolated project studies.

The LVRT is a particularly useful example. Its embankment influences how floodwaters move through parts of the community. Modeling has allowed us to examine whether modifications could reduce flood depths and how those changes might interact with proposed floodplain restoration and nearby infrastructure.

Jackson Dam presents another set of interconnected questions. Discussions about its future involve dam safety, hydropower, recreation, ecology, sediment, and flooding. Hydraulic modeling helps us understand the dam's effects on flood behavior and evaluate alternatives rather than relying on assumptions about what the dam does or does not do.

These are complicated decisions involving multiple interests, and modeling does not make those decisions for us. It provides a common technical foundation for the Town, engineers, state agencies, and other partners to evaluate alternatives and consider their broader consequences.

It also helps us recognize that individual projects cannot always be planned or implemented independently. Changes to one part of the river system may influence the design, effectiveness, or timing of work elsewhere.

One of the broader lessons from Hardwick is that watershed-scale hydraulic modeling should be considered basic resilience infrastructure in flood-prone areas.

We invest in transportation networks, water systems, and other public infrastructure because they support essential community functions. Understanding how floodwaters move through developed watersheds is similarly fundamental to making sound long-term decisions.

Without that information, communities can spend years developing individual projects without fully understanding how they interact, whether they might shift risk elsewhere, or whether the proposed improvements will achieve their intended benefits.

Project Sequencing and the Limits of Individual Funding Programs

Watershed-scale modeling has also brought another challenge into focus: the order in which projects are planned and implemented matters.

Hardwick is working on several related efforts involving Jackson Dam, the Lamoille Valley Rail Trail (LVRT), floodplain restoration near the confluence, downtown riverbank conditions, and vulnerable infrastructure. These projects have different owners, funding sources, engineering teams, permitting requirements, and implementation schedules. Yet changes made through one project could affect the design or effectiveness of another.

Ideally, communities would be able to evaluate those relationships, understand how projects might influence one another, and develop a coordinated implementation strategy.

In practice, the availability and timing of funding often determine which projects advance first, rather than their place in a larger watershed strategy.

This creates a significant challenge for long-term resilience. Communities may be working toward a coordinated strategy while navigating funding programs that support individual projects on entirely different schedules.

We need enough flexibility to coordinate projects over time, revisit assumptions as new information becomes available, and sequence improvements so that individual investments contribute to broader risk reduction.

That requires more than funding individual studies or construction projects. It requires sustained support for planning, coordination, design, implementation, and long-term management.

Combining Engineering, History, and Local Knowledge

Technical modeling is essential, but it does not replace local knowledge.

Residents often know which roads overtop first, where debris accumulates, how floodwaters move across properties, which routes remain accessible, and what happened during earlier floods. These observations can help identify conditions that may not be apparent from maps or engineering studies alone.



Historical records provide another important source of evidence.

Working with the Hardwick Historical Society and local historian Elizabeth "Wiz" Dow, we have been examining earlier floods, changes to the river, the history of Jackson Dam, previous infrastructure decisions, and earlier flood mitigation efforts.

Historical photographs, maps, newspaper accounts, and other records help us understand how the landscape has changed over time. They can reveal recurring patterns of flooding and erosion, document earlier attempts to manage the river, and raise questions about how past decisions continue to influence present-day conditions.

This work has been particularly valuable because so much of that knowledge had faded from our collective understanding of flooding. The information was preserved, but it was no longer necessarily part of our conversations about risk, planning, or infrastructure.

Bringing that history back into today's resilience discussions is not simply an exercise in remembering the past. It provides evidence that can inform current decisions.

We have increasingly tried to bring engineering, historical research, and residents' observations together rather than treating them as separate or competing sources of information.

Hydraulic modeling helps us understand how water may behave under particular conditions. Historical evidence helps explain how the landscape and infrastructure developed. Residents contribute firsthand knowledge of what happens during actual flood events and how those events affect their communities.

Each provides a different perspective, and together they give us a more complete understanding of risk.

They also help us ask better questions, identify gaps in our technical understanding, and make more informed decisions about future mitigation projects

Public Understanding Is Part of Resilience

One of the things we have learned is that communities cannot make informed decisions about complicated flood mitigation projects without opportunities to understand how rivers and watersheds work.

That is particularly important when a proposed project involves changes to a familiar landscape, a dam, recreation, private property, or essential infrastructure.



Hardwick developed the Ripple Effects educational series to create opportunities for people to learn about watershed processes outside the pressure of a particular permitting process or public hearing.

The series explored wetlands, landslides, natural flood storage, sediment movement, dredging, rivers, dams, and related watershed processes.

The goal was not to convince people to support particular projects. It was to give residents enough information to ask informed questions and participate meaningfully when decisions arise.

We have also experimented with different approaches to public engagement.

The Atkins Neighborhood Conversations brought technical experts into an existing community meal rather than requiring residents to attend another formal public meeting. People could eat dinner, talk with neighbors, ask questions, watch demonstrations, or simply listen.

A stream table proved particularly effective. Watching water move through a simulated river system helped people understand erosion, sediment transport, channel changes, and floodplain function in ways that technical presentations often cannot.

That experience reinforced an important lesson: public engagement does not always have to begin with a proposed project and a request for comments.

Sometimes understanding and relationships need to be built first.

And sometimes the people who would never attend a traditional planning meeting are the very people whose experience we most need to hear.

Public education is not an optional addition to resilience planning. It helps create the conditions under which communities can make difficult decisions about their future.



Practical Recovery Capacity Is Also Resilience

Much of the discussion about flood resilience focuses on land-use regulation, engineering, restoration, and capital investments. Those are critical, but they are only part of the work.



After a flood, people need immediate, practical assistance: dumpsters, fans, dehumidifiers, moisture meters, cleaning supplies, accurate information, volunteers, and someone who can help them figure out what to do next.

Having those resources available can determine whether a flooded building is cleaned and dried quickly or suffers additional damage. It affects how safely people recover, how long they may be displaced, and how quickly a neighborhood can begin functioning again.

Following the 2023 floods, Hardwick undertook a substantial revision of its Local Emergency Management Plan. The resulting Hardwick Plan brings together municipal emergency response responsibilities, mutual aid organizations, community resources, and volunteer support.

We developed four major operational components addressing emergency response, emergency communications, sheltering, and the Emergency Supply and Support Center. These are intended to work together rather than function as separate efforts.

The Town has recruited and trained emergency communications volunteers who can assist municipal staff during an emergency. We have also developed volunteer capacity for shelter operations and are working to establish trained teams to help residents safely clean out flooded buildings.

The Emergency Supply and Support Center includes a dedicated trailer stocked with equipment and materials that can be deployed following a disaster. Volunteers are prepared to operate the center, reducing the need to rely on municipal staff who are already managing emergency response and damaged infrastructure.

The Hardwick Plan is treated as a working document, updated as resources, responsibilities, and community capacity change.

Even with substantial long-term mitigation, communities will continue to experience flooding. Some of our larger projects may take years to implement, and people will still need help recovering in the meantime. Our experience has reinforced that emergency preparedness depends on more than having a plan on file. Equipment and supplies need to be accessible, volunteers need training, and the relationships among municipal staff, nonprofit organizations, businesses, and regional partners need to be maintained between disasters. Practical recovery capacity is not separate from resilience. It is part of it.

Granite Street: Putting the Pieces Together

The Granite Street Neighborhood Flood Resilience Plan is an example of how these different approaches can come together.

Granite Street is a historic residential neighborhood that experienced repeated flooding in 2023 and 2024. It would have been easy to approach the problem as a collection of individual damaged properties, but the neighborhood's flood risks are interconnected.



Drainage, stormwater, culverts, streets, flood storage, building utilities, emergency access, and communication all influence how residents experience flooding and how effectively they can recover. Addressing one property at a time would not resolve many of these shared problems.

The planning process has therefore considered both neighborhood-wide improvements and property-level mitigation.

Resident surveys, a neighborhood steering committee, and public conversations have helped identify what people value about Granite Street, what they experienced during the floods, and which practical changes could help them remain more safely. Residents have contributed their knowledge of how water moves through the neighborhood, where problems occur, and what happens during recovery. They are participants in shaping the plan, not simply recipients of technical recommendations.



The Town is advancing a utility elevation program to reduce damage to vulnerable mechanical and electrical systems in individual homes. At the same time, the neighborhood plan identifies larger improvements, including Granite Street culvert and drainage changes, potential flood storage and restoration near Spring Street Extension, stormwater management, and improvements to emergency communications and preparedness.

These measures operate at different scales and on different timelines. Utility elevations can reduce damage to individual homes, while larger drainage and flood storage projects require additional engineering, coordination, and funding. Neither approach replaces the other.

Granite Street illustrates how watershed-scale information, neighborhood planning, and property-level mitigation can work together. The larger hydraulic system helps us understand the conditions affecting the neighborhood. Residents and technical partners help identify shared problems and potential solutions. Property-level improvements provide opportunities to reduce risk while larger projects are developed.

Each scale informs the others.

The larger lesson is that flooding does not happen parcel by parcel, so resilience cannot always be designed parcel by parcel either.

Sometimes the most effective intervention for an individual property involves changing conditions somewhere else in the neighborhood.



Cooper Brook cleanup, May 2026. Community volunteers removed debris from the watershed as part of ongoing neighborhood recovery and stewardship.

Matching Mitigation to the Risk

Resilience does not always mean moving people out of flood-prone areas. Sometimes it means helping them remain more safely through utility elevation, floodproofing, drainage improvements, preparedness, or other property-level measures. Sometimes it means voluntary acquisition and relocation because the level or type of risk makes continued occupancy impractical.

Hardwick has worked with 20 properties through voluntary buyout programs associated with the 2023 and 2024 disasters. These properties have experienced different hazards, including repeated inundation and river erosion, and the circumstances of each acquisition have been different.

The lesson from that work is not that buyouts are always the answer. Mitigation decisions need to reflect the hazards, the characteristics of the property, the surrounding neighborhood, and the needs of the people who live or work there.

There is also an important distinction between reducing risk to an individual property owner and achieving broader watershed benefits.

Removing a house from a flood-prone location can eliminate future exposure for that household, but it does not necessarily produce a measurable improvement in flood elevations or floodplain function elsewhere. Those broader benefits depend on where the property is located, its relationship to surrounding parcels, how the land is restored, and whether multiple acquisitions create opportunities for floodplain reconnection.



This is one reason Hardwick has begun looking at buyout properties in clusters rather than solely as individual parcels.

Properties along Brush Street, Sawmill Lane, Route 14 South, and East Hardwick present different opportunities and constraints. Considering them together allows us to examine potential hydrologic benefits while also involving surrounding neighborhoods in discussions about what happens to the land.

In some locations, groups of acquired properties may create opportunities for floodplain restoration that would not exist on isolated parcels. In others, appropriate uses may include open space, habitat, river access, or passive recreation. Those possibilities depend on the characteristics of each location, applicable restrictions, and community priorities.

Once the structures are removed, the Town assumes responsibility for land that must be managed and maintained over time. That includes addressing invasive species, understanding restrictions on future uses, considering neighborhood expectations, and determining what level of maintenance and stewardship the municipality can realistically provide.

These responsibilities are especially important when multiple properties are acquired within an established neighborhood. The land may no longer be privately occupied, but it remains part of the community.

Recognizing these responsibilities, Hardwick adopted a Former Buyout Property Planning & Stewardship Framework in June 2026 to guide decisions about the long-term use, management, and stewardship of acquired properties.

Purchasing a flood-prone property is not the end of the resilience process. It is often the beginning of a new set of responsibilities.



The Challenge of Existing Development and Essential Infrastructure

Land-use regulation is an important tool for preventing additional flood risk. But many of Hardwick's most difficult problems involve infrastructure and development that already exist.

The Fire Station and Wastewater Treatment Facility have both been substantially damaged. Roads and bridges provide essential access through flood-prone areas, and residential and commercial neighborhoods developed long before today's understanding of flood hazards.

Better zoning can help prevent new structures from being placed in harm's way, but it cannot solve the problems created by existing development and infrastructure.

Addressing those risks requires capital investment, relocation, adaptation, restoration, and difficult decisions about what can reasonably be protected and what may need to change. It also requires time.



Major infrastructure projects can take years to plan, design, fund, permit, and construct. In the meantime, communities must continue providing essential services while managing risks that cannot be eliminated immediately.

This creates a particular challenge for smaller municipalities. Even when the need for a project is clear, finding the funding and technical capacity to move it forward can take years. During that time, existing facilities may remain vulnerable to the next flood.

This is an important distinction for resilience policy. Preventing future risk and reducing existing risk are related, but they are not the same task. They require different tools, financial resources, and implementation timelines.

A successful resilience strategy must address both.

Looking Upstream: Recognizing the Value of Working Landscapes

One area Hardwick is beginning to explore more explicitly is the role of upland landscapes in flood resilience.



Forests, wetlands, healthy soils, headwaters and working lands all influence how water moves through the watershed. Depending on their location and characteristics, these landscapes can help retain water, slow runoff, provide flood storage, reduce erosion, and influence sediment movement.

Maintaining healthy, functioning landscapes provides benefits that extend beyond individual property boundaries. That raises an important question about how we recognize the public value of privately owned land.

If landowners are maintaining forests, wetlands, floodplains, or working lands that provide flood storage, runoff management, and other watershed benefits to downstream communities, how should those contributions be recognized and supported?

For farmers and other working landowners, this question is particularly important. Maintaining or restoring these functions may involve real costs, including changes to agricultural practices, reduced productive acreage, maintenance responsibilities, or limitations on future land use.

We cannot simply assume that individual landowners will bear those costs when the benefits may extend to communities far downstream.

Tax policy, conservation incentives, compensation programs, and technical assistance all deserve consideration. There may also be opportunities to better recognize watershed benefits within existing land conservation and agricultural programs.

Hardwick does not have a finished answer to this question. If we are going to approach flood resilience at the watershed scale, we also need to consider who is maintaining the landscapes that provide these benefits, who receives them, and how the responsibilities and costs should be shared.

Municipal Capacity Is a Structural Resilience Issue

Perhaps the most consistent lesson from Hardwick is that identifying the right project is only one part of the challenge.

The municipality must also assemble funding, manage procurement, coordinate engineering, obtain permits, work with property owners, conduct public engagement, oversee contractors, administer grants, and provide long-term stewardship.

In Hardwick, these responsibilities have accumulated while the Town is still recovering from repeated disasters. We have been managing buyout programs, pursuing infrastructure improvements, conducting hydraulic modeling, updating zoning regulations, developing neighborhood plans, coordinating emergency preparedness, and preparing for future flood events.

Much of this work is interconnected, but the programs supporting it are fragmented.

Different funding sources have different eligibility requirements, application cycles, match obligations, procurement rules, reporting requirements, and deadlines. One project may involve FEMA, another state recovery program, another federal economic development funding, and another municipal planning grant.

Each program may serve an important purpose, but bringing them together into a coordinated resilience strategy creates substantial administrative work. For a small municipality, managing that complexity can become one of the greatest obstacles to implementation.

This is compounded by the overlapping jurisdictions discussed earlier. Regional organizations can provide essential support, but their geographic boundaries, responsibilities, resources, and technical capabilities do not always align with the needs of a particular watershed. Municipalities often find themselves coordinating work across multiple organizations without having authority over the infrastructure, programs, or decisions involved.

Hardwick has been fortunate to develop productive relationships with state agencies, regional partners, conservation organizations, engineering firms, community groups, and residents. Those relationships have made much of our work possible. But a functioning resilience system should not depend entirely on individual relationships, unusual municipal staffing arrangements, or the ability of one community to navigate a complicated funding landscape.

The challenge is not simply finding another grant or hiring another person. It is how resilience programs are organized, how technical assistance is delivered, and how communities are supported in carrying complex projects from planning through implementation.

If we expect municipalities to undertake increasingly sophisticated watershed-based resilience work, we also need to provide the institutional capacity to make that work possible. Implementation capacity should be understood as a form of resilience infrastructure.

What Hardwick's Experience Suggests for the Lake Champlain Basin

Hardwick is one community in a much larger watershed, and much of our resilience work remains in progress.

We have not solved our flood problems. Several of our most important projects are still being studied, designed, funded, or evaluated. We continue to learn from new technical information, public conversations, and the practical challenges of implementation.

Our experience has, however, revealed several areas where changes in policy, funding, and technical support could help communities throughout the Lake Champlain Basin.

Invest in watershed-scale information. Hydraulic modeling and related technical studies should be more readily available to flood-prone communities. This information should support long-term planning, infrastructure decisions, and the evaluation of interconnected projects rather than depend entirely on funding for individual proposals.

Support neighborhood-scale planning. Watershed science needs to connect with the realities of existing homes, streets, drainage systems, infrastructure, and residents. Neighborhood planning provides a practical bridge between watershed-level information and property-level mitigation, allowing communities to identify shared problems and develop solutions appropriate to local conditions.

Address existing risk as well as future development. Land-use regulation can help prevent additional exposure, but communities also need funding and technical support to reduce risks associated with existing development and essential infrastructure. Mitigation, adaptation, restoration, and relocation all have roles to play, depending on the circumstances.

Recognize public education and recovery capacity as resilience functions. Technical information is most useful when people can understand and apply it. Historical knowledge, community education, preparedness, practical recovery resources, and local partnerships are essential complements to engineering and regulation. These efforts need sustained support between disasters, not just during recovery.

Provide flexible, sustained funding. Resilience projects do not always advance in a linear sequence, and projects within a watershed may influence one another. Funding programs should support coordination, project sequencing, design, implementation, and long-term stewardship, rather than treating each phase or project as an isolated undertaking.

Build municipal and regional implementation capacity. Small municipalities need dependable technical and administrative support to manage complex projects across multiple agencies, jurisdictions, and funding programs. Effective implementation should not depend entirely on local staffing arrangements or individual relationships.

Recognize the public value of functioning landscapes. Forests, wetlands, floodplains, and working lands can provide important watershed benefits. Policies should consider how to maintain those functions and support the landowners who provide them.

These considerations are interconnected. Watershed modeling has limited value if communities lack the resources to act on its findings. Regulations that prevent new development in hazardous locations cannot, by themselves, address the risks already present in established neighborhoods and essential infrastructure. Buyouts may remove households from harm's way without necessarily restoring floodplain function. And public engagement is less meaningful when residents lack access to information that helps them understand the decisions being made.

Ultimately, identifying sound resilience strategies is not enough. Communities also need the knowledge, partnerships, funding, and institutional capacity to carry them through.

The challenge is not simply supporting more individual resilience projects, but helping communities connect those efforts across properties, neighborhoods, municipal boundaries, and watersheds.



Connecting the Scales

Hardwick's experience has taught us that flood resilience does not happen at one scale.

At the property level, it may mean elevating utilities, floodproofing, helping a family recover safely, or supporting voluntary relocation. At the neighborhood level, it may mean improving drainage, restoring flood storage, protecting access, or developing a shared preparedness strategy. At the community level, it may mean relocating essential infrastructure, coordinating emergency response and recovery, or making long-term land-use and capital investment decisions. At the watershed level, it means understanding how water moves through the landscape and recognizing that interventions in one location may affect people and places elsewhere.

These scales are interconnected, and effective resilience requires us to consider them together.

We have also learned that resilience depends on different kinds of knowledge and different timelines. Engineering and hydraulic modeling help us understand the physical systems, while historical evidence, local experience, and public participation help us understand how those systems affect communities. Immediate recovery needs must be addressed alongside infrastructure improvements and watershed restoration that may take years to accomplish.

Hardwick has not solved its flood problems. Much of our work remains in progress, and some of our most difficult decisions are still ahead. We have learned that understanding the risks is only part of the challenge. Communities also need the relationships, resources, and institutional capacity to turn that understanding into action.

We began this work having lost much of our collective understanding of flooding. Rebuilding that knowledge, preserving it, and using it to guide future decisions may be one of the most important things we can do.

Resilience is not a single project, program, or regulation. It is a way of connecting systems, people, and decisions over time. If we want to become more resilient as a state and as a basin, we need to make those connections easier to understand, easier to fund, and easier for communities to act upon.

Basis of information: This overview draws on my experience with Hardwick's flood recovery and resilience work and was informed in part by the 2024 UVM policy briefing, *On Matters of Life and Death: Recommended Actions to Improve the Safety of Vermonters During Major Flooding Events*.

Use of AI: The words, ideas, and conclusions in this document are my own, based on my professional experience. AI tools were used to assist with organization.