

# Hardwick Municipal Plan

## Adopted November 6, 2019

---

### Select Board

Eric Remick, Chair  
Danny Hale, Vice Chair  
Lucian Avery  
Shari Cornish  
Elizabeth Dow

### Planning Commission

Dave Gross, Chair  
Ken Davis, Vice Chair  
Diane Grenkow  
Jim Lewis  
Joyce Mandeville

# Contents

Land Use & Development.....	5
Current land use pattern .....	5
Future land use districts .....	5
Timing and intensity of growth.....	8
Implementing the land use plan .....	9
Goals, Policies, and Recommendations .....	9
Historic, Scenic, and Archeological Resources .....	10
Historic Resources .....	10
Scenic resources.....	11
Archeological resources.....	11
Goals, Policies, & Recommendations.....	12
Housing.....	13
Safe housing.....	13
Housing demographics.....	13
Affordable housing .....	13
Special needs housing .....	14
Fair housing .....	14
Goals, Policies, & Recommendations.....	15
Economic Development.....	16
Hardwick’s strengths.....	16
Challenges to Hardwick’s economy.....	17
Vision for the Hardwick’s Future .....	18
Goals, Policies, and Recommendations .....	19
Land Resources.....	21
Geography.....	21
Topography .....	21
Geology.....	21
Goals, Policies, & Recommendations.....	22
Natural Areas & Wildlife Resources .....	23
Critical wildlife habitat in Hardwick.....	23
Goals, Policies, & Recommendations.....	24
Water Resources .....	25
Rivers and streams .....	25

Lakes and ponds.....	25
Wetlands .....	25
Groundwater resources .....	25
Water quality.....	26
Goals, Policies, & Recommendations .....	26
Flood Resilience.....	27
Flood Risks in Hardwick.....	27
FEMA Digital Flood Insurance Rate Maps (DFIRMS).....	27
The Cost of Flooding to Hardwick .....	27
The Lay of the Land & Flood Damage Risk.....	27
Culverts & Bridges.....	28
Critical Facilities .....	28
Goals, Policies, & Recommendations .....	28
Public and Private Facilities & Services .....	30
Hardwick’s government.....	30
Water systems .....	30
Sewage and septic systems .....	30
Public safety.....	31
Health services.....	32
Child care .....	32
Jeudevine Memorial Library .....	32
Cemeteries.....	32
Recreation facilities.....	33
Solid waste facilities .....	34
Town owned buildings and properties .....	34
Other public lands .....	34
Goals, Policies, & Recommendations .....	34
Education .....	35
Current facilities.....	35
Other educational services .....	35
School governance .....	37
Educational attainment.....	37
Adult educational services and facilities.....	37
Goals, Policies, & Recommendations .....	38

Transportation .....	39
Highways .....	39
Rail .....	40
Air .....	40
Recreational and non-vehicular transportation .....	40
Transit services .....	40
Goals, Policies, & Recommendations .....	41
Energy Sources .....	42
Electricity .....	42
Heating .....	42
Transportation .....	43
Energy Consumers .....	43
Goals, Policies, & Recommendations .....	44
How the plan relates to the Regional Plan and adjacent municipalities.....	45
Appendix A: Hardwick’s Tools and Options for Plan Implementation.....	46

## **LAND USE & DEVELOPMENT**

The land use pattern of any community is typically the result of several influences: physical constraints of the land, historical development patterns, transportation routes, economic influences, and personal preferences. This pattern of uses and development give a community character and serve as the foundation for future development.

### **Current land use pattern**

The development pattern of Hardwick is typical of the communities throughout northern Vermont. This pattern is one of traditional New England settlement with compact village centers surrounded by agricultural and forest lands. The villages of Hardwick and East Hardwick, both located along the Lamoille River, serve as the activity centers of the community with community services, commercial and industrial activity, and higher density residential development. Both of these areas were historically mill sites and both benefited by having direct access to the railroad. These historic centers also maintain much of their historic character with many older buildings having been renovated. This rich concentration of historic resources is reflected in the fact that five historic districts have been designated within the Town of Hardwick.

The Lamoille River enters the town in the northeast and exits in the southwest. In addition to the productive soils found in the flood plains along the bottom, the valley is also home to important transportation corridors providing access to the community via state highways.

Areas such as Bunker Hill, Bridgman Hill, Center Road, Hopkins Hill, Hardwick Street, and Ward Hill all have their own concentrations of agricultural land uses. Low density scattered residential development exists throughout these areas with densities highest closer to village centers. The community's higher elevations and steep slopes are typically forested - much of which is covered with mixed hardwoods, with stands of softwood dominating the highest ground. Most of this forestland is in medium sized blocks from 100 to 500 acres and serve as private woodlots with some commercial harvesting. In addition to wildlife, recreational and economic benefits, these forestlands provide the backdrop for the seasonal display of color that dominates the landscape every fall.

The overall character of Hardwick is that of an economically diverse community. Residents of Hardwick take pride in their heritage of traditional Vermont skills such as farming while also valuing and protecting the scenic beauty of the area hillsides and waterways, areas which most citizens utilize for their recreational activities. Hardwick is known for its "neighbor helping neighbor" philosophy and its intergenerational collaboration has created a network of knowledge sharing throughout the community. Hardwick serves as the center of education and culture for the area, as witnessed by the presence of Hazen Union High School, the Jeudevine Memorial library, and The Hardwick Town House.

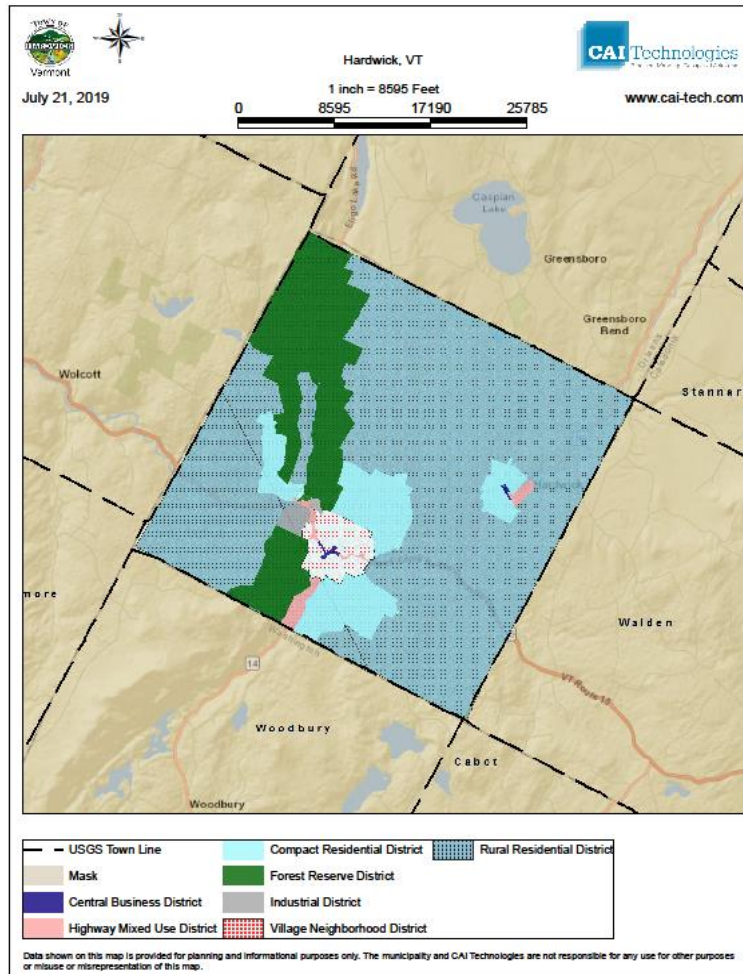
It is this pattern of land use activity, in combination with contrasting open and forested land, that provides the essential character of Hardwick and it is this pattern and character of development that the community wishes to maintain into the future.

### **Future land use districts**

The Town of Hardwick is divided into seven districts with two overlay districts. These districts include: Central Business District, Village Neighborhood, Highway Mixed Use, Compact Residential, Industrial, Rural Residential, and Forest Reserve, as well as the two overlay districts of Flood Hazard Area and Wellhead Protection Area. The plan attempts to classify the town into various districts based on current land uses and conversations with neighbors and residents.

## Central Business District

The Character of the Central Business Districts in Hardwick and East Hardwick differ greatly. East Hardwick has seen a decline in its business activity since the end of the 19th century and its Central Business District, spread along both sides of Main Street, is almost exclusively comprised of single and multi-family residences. On the other hand, Hardwick Village's Central Business District which lies along the Lamoille River and the intersections of State Highway 14 and 15 remained active throughout the 20<sup>th</sup> century and has experienced



revitalization in the 21st, thanks in part to the local foods movement. This preference for local/Vermont owned businesses has made Hardwick the area's Market Destination for both commerce and entertainment. Much of what has been achieved is due to the Hardwick's success in attracting grant funds from outside institutions and much more remains to be done to maximize the benefits of the Central Business District's interrelationship of the Lamoille River, community space, and businesses in this walkable downtown.

- Purpose. The Central Business District is intended to support a compact mix of commercial, professional, civic, and residential uses in Hardwick's traditional downtown in a manner that maintains and enhances the area's historic character and economic vitality.
- Present Land Uses. This area already supports the mix of uses desired in the plan. High density residential, commercial, and civic uses are common throughout the area.
- Future Land Uses. The district should continue to be used as described above. One issue with future land use in this district lies with vacancies in a couple of older buildings. Though few, these buildings are in conspicuous locations which challenge the vibrancy of the area. Continued development of new shops and restaurants will enhance the appeal of the area.

### Village Neighborhood

The Character of the Village Neighborhood District is best described as residential homes that represent a significant historical architectural resource. The district is very walkable in that its streets have low traffic volumes and that it lies adjacent to the Central Business District and the surrounding wooded hillsides.

- Purpose. This district is intended to provide for high density residential development and appropriate non-residential uses in existing neighborhoods located close to Hardwick's traditional downtown in a manner that maintains historic settlement patterns and streetscapes.
- Present Land Uses. This area is currently used for residential, commercial, and public uses (including Hazen Union and Hardwick Health Center). Most of these buildings continue to have significant historic value.
- Future Land Uses. The district should continue to be used as described above. Any development or redevelopment in this area should respect the historic character of the neighborhood in which it is located. Improvements in pedestrian infrastructure would help connect this area to the Central Business District and Highway Mixed Use District.

### Highway Mixed Use District

The Character of the Highway Mixed Use District is by its very nature varied. It serves as an important part of Hardwick's identity as a Market Destination and as a location for light industry, a well-recognized anchor to future economic growth.

- Purpose. The Highway Mixed Use District is proposed to allow automobile-oriented businesses and other compatible uses along major travel corridors contiguous to the historic village centers, while maintaining a safe efficient traffic flow.
- Present Land Uses. This area already supports a mix of uses including commercial, light industrial and residential uses.
- Future Land Uses. The district should continue to be used as described above. A more balanced mix of residential and other uses would improve the vibrancy of the area. Improved pedestrian networks would help connect these areas to the Village Neighborhood areas and Central Business District.

### Compact Residential

The Character of the Compact Residential District is best described as residential homes that represent a significant historical architectural resource. The districts are very walkable in that their streets have low traffic volumes and that they lie adjacent to the recreational resources of the surrounding wooded hillsides

- Purpose. The purpose of the Compact Residential District is to provide moderate to high density residential development and appropriate non-residential uses in predominantly built-up areas within and surrounding the town's village centers.
- Present Land Uses. This area is currently used primarily for residential uses, but agriculture and commercial operations are also common.
- Future Land Uses. The district should continue to be used as described above. This area is expected to accommodate much of the future residential growth in the Town of Hardwick. The issues with future land use in this district lie with the amount and scale of development. Development must respect the environmental and physical constraints that exist on the site including slopes, soils, and wildlife habitat.

### Industrial

The Character of the Industrial District is one of light industry and small manufacturing. Residents of Hardwick recognize that these businesses provide the basis for future economic growth, but state a preference for

local/Vermont owned businesses in the belief that they often contribute much more to the community than out-of-state corporate businesses do. Many businesses in the Industrial District were created thanks to Hardwick's success in attracting grant and investment start-up funding.

- Purpose. The Industrial District is intended to encourage a variety of industrial, manufacturing, and appropriate commercial uses while protecting such uses from incompatible residential uses in locations served by municipal water and sewer and good highway access
- Present Land Uses. This area is exclusively industrial.
- Future Land Uses. The district should continue to be used as described above.

### Rural Residential

The Character of the Rural Residential District is one that balances excellent recreational resources, historic architectural resources, and the revitalized agricultural economy comprised of traditional farming and value-added agri-business.

- Purpose. The purpose of the Rural Residential District is to promote agriculture, forestry and low to moderate density residential development in areas well served by public roads but lacking municipal water and sewer. To ensure the protection of environmental resources and maintaining open space, the clustering of new development is strongly encouraged.
- Present Land Uses. Due to the size and extent of this district, many land uses exist within its borders. This area is currently used for agriculture, forestry, and earth extraction but also residential and commercial uses. Most developed lands are within a few hundred feet of the existing road network.
- Future Land Uses. The district should continue to be used as described above. The issues with future land use in this district lie with the amount and scale of development. Development must respect the environmental and physical constraints that exist on the site including slopes, soils, and wildlife habitat. Preservation of open space for continued use in forestry and agriculture is desired as well.

### Forest Reserve

The Character of the Forest Reserve is self-evident. This area is important as forest blocks and habitat connectors.

- Purpose. The purpose of the Forest Reserve District is to protect significant forest resources and limit development to low densities in areas with steep slopes, shallow soils, unique or fragile resources, significant wildlife habitat, and poor access to town roads and community facilities and services.
- Present Land Uses. This area is currently used for forestry and wildlife habitat. A limited amount of agriculture and residential development also exists.
- Future Land Uses. The district should continue to be used for forestry and wildlife habitat as well as limited agriculture and residential development.

### Overlay Districts

Overlay districts include the following:

- Flood Hazard District. This area was defined by FEMA in order to protect the safety and welfare of residents and to prevent public and private economic losses resulting from floods.
- Wellhead Protection District. Three areas have been identified as regions that provide water for public wells including Hardwick's well on Wolcott Street, East Hardwick's well on Ward Hill, and Greensboro Bend's well in the northeast corner of town.

### **Timing and intensity of growth**

Historically, Hardwick has had a slow, steady growth rate which has enhanced the stability of the community. Future development - both residential and non-residential - should be encouraged to continue in a similar manner.



## **Implementing the land use plan**

The two most common land use planning tools used in Vermont are zoning bylaws and subdivision regulations. Both of these are effective tools to implement many of the goals and objectives of land use plans. Hardwick has adopted both of these tools and combined them into a Unified Development Bylaw.

Hardwick's zoning was originally adopted in 1973. The bylaws have amended four times since 2002 to bring them up to date with changing state laws. Permit activity has been fairly steady over the past decade. The number of permits issued annually is generally between 40 and 50 and the number of new houses is about 5 - 7.

## **Goals, Policies, and Recommendations**

### **GOAL**

- Maintain Hardwick's present patterns of land use: dense residential and commercial uses concentrated in Hardwick village and East Hardwick and sparsely developed agricultural and forest land outside these village centers, with a rural and natural skyline.

### **POLICIES**

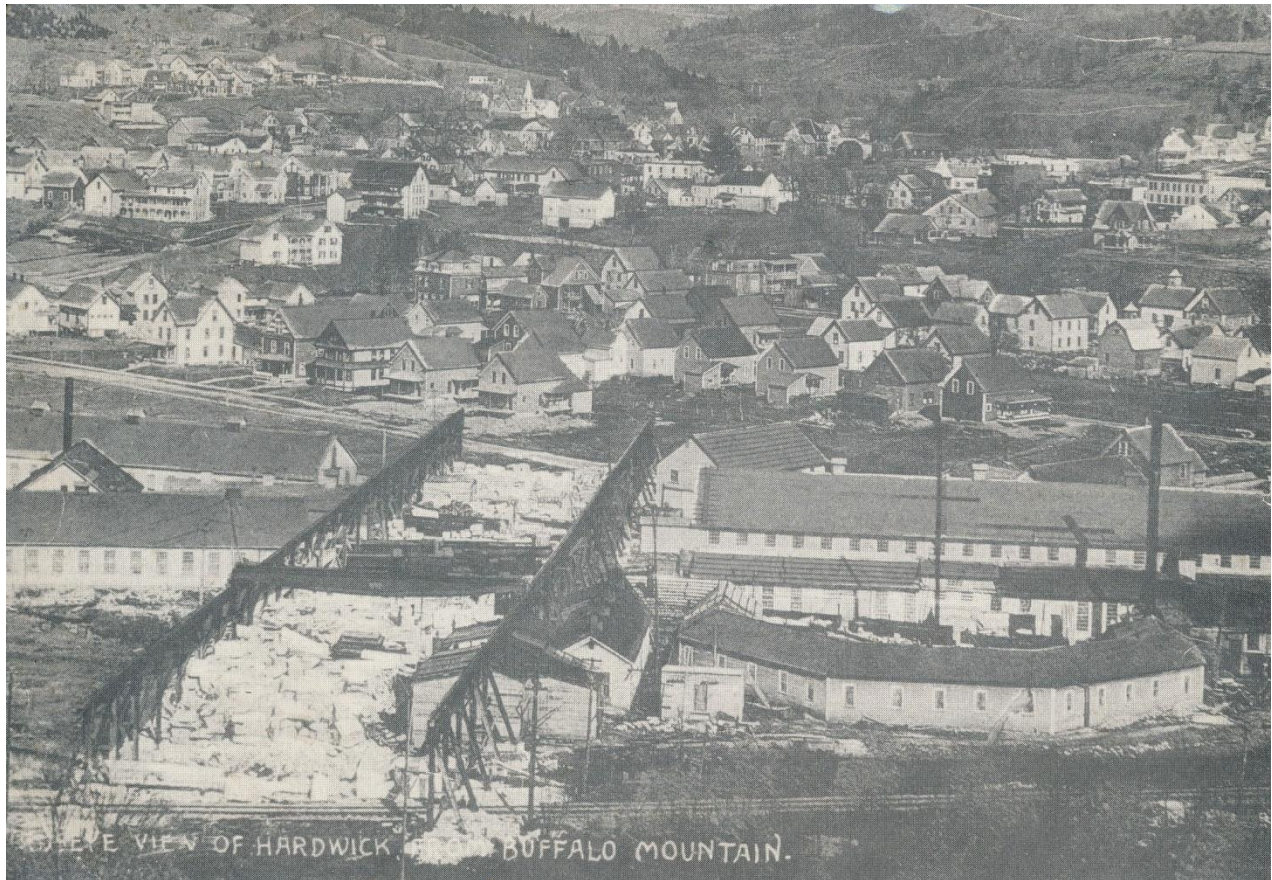
- The clustering and/or siting of development is encouraged in order to replicate traditional patterns of development, to protect rural and scenic character, and to maintain contiguous tracts of resources and open land.
- The Flood Hazard district is intended to protect life and property within federally designated flood hazard areas. New construction should not occur within these areas and existing buildings should be flood proofed.
- Higher density residential developments should be located closer to major roadways and existing villages to improve emergency service response.
- Mixed-use developments are encouraged to allow commercial, business, and residential uses to be located near each other.
- The scale of new construction and buildings should be in keeping with the development patterns of the immediate surrounding areas.
- Development in areas that require an extension of services, such as sidewalks, electricity, or water, should be discouraged.
- Abandoned, unsafe and unsanitary lots should be remediated in order to improve public safety and facilitate adaptive reuse.
- When subdividing existing lots or building new structures, it is important to maintain the character of residential areas with regards to historic layout and green space.

# HISTORIC, SCENIC, AND ARCHEOLOGICAL RESOURCES

## Historic Resources

### Historic record

The Town of Hardwick has a rich history, which informs the values and traditions held by residents today. A period of about 30 years (1890-1920) of industrial production of commercial granite sets it apart from other towns in the region. The town, through support of the Hardwick Historical Society (HHS) will ensure that this history is available for residents, new and old. The HHS spearheaded a major renovation of the 19th century railroad depot into a remarkable archives and museum for its holdings.



A survey of historical documents in the various repositories in Hardwick, completed in April 2001, revealed a wealth of holdings. The Town Clerk's Office has responsibility for town records from the early 19th century, including the records of the school system. HHS has focused on records in the areas of business and social activity as well as genealogical resources. The Hardwick Gazette recently donated its complete morgue from 1896 to the Hardwick Historical Society.

The two Historic Districts recorded on the National Register of Historic Places are the Downtown Hardwick Village Historic District and the Hardwick Street Historic District. In addition, the Vermont Division of Historic Preservation recognizes the West Church Street Historic District, Granite Street Historic District, Wakefield Farm Historic District, Holton and Kimball Hills Historic District, the East Hardwick District and the Mackville Historic District.

## Historic sites and structures

Listing in the National Register honors a historic place by recognizing its importance to its community, State, or Nation. Recognition does not add any additional permit requirements or limit the use of private property. Owners have no obligation to open their properties to the public to restore them, or even to maintain them. Similarly, recognition on the state survey does not add any additional permit requirements or limit the use of private property.

Hardwick is fortunate to have had an inventory of the historic structures completed for the town. The *Town of Hardwick Historic Sites and Structures Survey* (1985) includes descriptions of the 434 structures. Of all these historic structures, only two have been listed on the National Register- the Cobb School and 143 Highland Avenue. A third structure has been found eligible for the National Register; the 1913 Yellow Barn, formerly associated with Greensboro Garage. The Yellow Barn might be added to the National Register in the future which might make renovations eligible for grant funds.

In 1898 the former Hardwick Academy / Town House was converted to an opera house. In 2001 the Northeast Kingdom Arts Council was founded and began work to restore the Town House. Many improvements have been completed and the Town House is once again a functioning theatre.

## **Scenic resources**

Hardwick is the “Gateway to the Northeast Kingdom” and has a varied landscape including open and wooded land, working farms and appealing village areas. Views of rural lands from the following vantage points have special scenic importance to the community: Center Road, Bridgman Hill, Slapp Hill, Ward Hill, and Belfry Road. Central to Hardwick’s scenic offerings are Buffalo Mountain, Hardwick Lake, the Lamoille River, and Mackville Pond, which contribute to both the beauty and the recreational opportunities. The Hardwick Trails system and the Lamoille Valley Rail Trail (LVRT) provide walking and biking in the summer months. In winter, the Hardwick Trails offer groomed cross country skiing and plan to groom its 6 miles of bike trails for fat bikes. The LVRT offers snowmobiling and cross country skiing.

## **Archeological resources**

Archeological sites contain a fragile, complex and irreplaceable record of past human activity. Two areas of have been identified as “expected moderate-to-high archeological sensitivity.” The first is located on both sides of Alder Brook) from Hardwick Lake to Eligo Pond in Craftsbury. The second area of archeological sensitivity is along the entire length of Greensboro Brook from the Lamoille River up to Caspian Lake in Greensboro. This rating does not necessarily indicate that any archaeologically significant resources have been located in the area and none have yet been found.

With the Lamoille River flowing through the heart of the town, and Alder, Cooper and Nichols Brooks flowing into the Lamoille from the surrounding hills, the town of Hardwick was almost certainly an important landscape for Native American peoples. Native Americans not only utilized rivers and streams for food and water, but also as vital transportation corridors. Although there have been no Native American archaeological sites reported in Hardwick to date, this is largely due to a lack of professional archeological studies conducted in the area, the alteration of some portions of town’s landscape through development, and the inundation of certain areas due to dam impoundment. Native American archaeological sites and historic archaeological sites related to early settlement, agriculture, industry and tourism likely remain to be discovered within Hardwick’s borders, as they have been in most of the towns surrounding Hardwick.

## **Goals, Policies, & Recommendations**

### **GOAL**

- To identify, protect, and preserve important natural and historic features of the Hardwick landscape, including significant scenic roads, waterways and views, important historic structures, sites or districts, archaeological sites, and archaeologically sensitive areas.

### **POLICIES**

- Development within any designated historic districts should be in character with the surrounding architecture.
- Telecommunications towers and other large obvious structures should be carefully sited to minimize impacts on scenic resources.
- Development around the natural scenic resources identified should be sited and constructed in such a manner as to retain the natural scenic beauty of the areas. Removal of the natural vegetation on the site should be minimized and structures should be screened or hidden from view as best possible.

### **ACTIONS & RECOMMENDATIONS FOR IMPLEMENTATION**

- Hardwick should continue to support the endeavors of the Hardwick Historical Society.
- The Select Board should continue to support the Village Center Designations in the Hardwick Village and in East Hardwick.
- The Select Board should explore a tax stabilization program for downtown façade improvements.
- The Select Board should continue to provide funds that will make a significant contribution to those matching funds raised by local organizations and individuals for the purpose of maintaining or improving the above named historic structures owned by the Town of Hardwick. Line items for these funds for each of these buildings should be included as part of the town budget.
- Where an archeological site is discovered on an undeveloped property or part of a property, the town supports the purchase of development rights on the effected portion as a means of compensating landowners for the loss of development rights. Purchase of development rights are always on a willing seller basis.

# HOUSING

## Safe housing

In Hardwick, the Select Board enforces the state health codes through the appointment of a Health Officer. The health codes apply to commercial and rental properties. Other basic standards that the town has adopted include flood hazard regulations (to require any housing in the flood hazard area to be safe for occupants), subdivision regulations (to require private roads to be wide enough to accommodate emergency vehicles), zoning regulations (to require driveways and buildings to be serviceable by emergency vehicles), and fire codes (to enforce additional fire code requirements on rental units).

## Housing demographics

Single-family units are the predominant form of housing in Hardwick. A breakdown of housing from the Grand List records from 2019 is as follows:

- 649 residential homes on 6 or less acres
- 283 residential homes on 6+ acres
- 77 mobile homes without land
- 130 mobile homes with land
- 10 vacation homes on 6 or less acres
- 17 vacation homes on 6+ acres
- 24 operating farms
- 12 commercial apartments

According to the 2017 American Community Survey, there were 1,501 housing units in Hardwick. Of these units, 1,164 are occupied, with 804 being owner-occupied, and 360 renter occupied.

## Affordable housing

The Department of Housing and Community Affairs housing policy states that housing is regionally affordable when the costs required for housing (mortgage plus taxes) are no more than 30% of the income for a household earning 80% of the median county income. The affordability threshold for Caledonia County is \$947 per month. (Caledonia County's affordability threshold is calculated as follows: \$47,371 is the county median household income, according to American Community Survey Estimates; \$37,897 is the 80% figure; \$11,369 is 30% of the 80% figure; \$947 is arrived at by dividing the \$11,369 by 12 months).

According to most recent American Community Survey 5-year averages (2017), median monthly housing costs were \$1,273 for those with a mortgage and \$606 for those without a mortgage. The median housing cost for those with a mortgage was \$326 above the regional affordability threshold, which means that household earning \$37,897 could not afford the median mortgage expense in the Town of Hardwick. Unlike mortgages, rents in Hardwick were considered affordable. The median gross rent in Hardwick was \$802. However, before we simply assume that rental housing is affordable in Hardwick, it should be noted that more than 16% of renters in Hardwick are paying more than 50% of their household incomes on housing.

Affordable housing continues to be a challenge for Vermonters throughout the region and the state. The Affordable Housing Coalition reports that a persistently high proportion of Vermonters are "cost burdened" because they pay more than 30% of their income on housing: 46% of renters and 35% of owners with mortgages. These numbers represent the nation's 12<sup>th</sup> and 6<sup>th</sup> highest percentage rates respectively. Hardwick's affordable housing challenges are the same as those elsewhere in the state: stagnating incomes and aging housing stock, particularly among rental units.

## Special needs housing

Listed below are groups with special needs which are found in Hardwick and an evaluation of how well their needs are being met. Generalizations are made throughout this section based on age and they are not intended to be derogatory in any manner. With each generation, individuals are staying healthier longer and can live independently much later in life. But, in general, taking care of oneself and one's home gets significantly more difficult as one gets older especially if someone loses a spouse.

- Seniors living alone: According to the 2010 Census there were 143 seniors living alone in Hardwick. This group is important for social reasons as being retired and living alone in northern Vermont can be hard. In many cases, opportunities to rent apartments in senior housing are desired. Hardwick currently has no senior housing available (Level IV- senior living- no assistance provided). While there are no Level IV facilities, there are private senior housing options including the Bemis Block (14 units), Highland Hills Apartments (14 units), and Maple Street Apartments (16 units).
- Seniors 70-85: Most seniors between 70 and 85 continue to live independently, but many require some assistance especially as they get older. These may be situations where seniors have difficulty driving or require a visiting nurse periodically. Residents are typically still active and take care of themselves and their apartments. In Hardwick there were 228 seniors in this age group and there are no Level III living arrangements available (Level III housing has 24 hour assisted living).
- Seniors 85 and over: Beyond age 85, seniors increasingly need more intensive care. In the most serious cases, full institutional care is required. There are 39 seniors in Hardwick over 85. Hardwick has no Level II or Level I housing. These types of living arrangements are also known as nursing homes or convalescent homes. Residents generally are unable to live on their own due to physical or mental difficulties. The construction of assisted living facilities or a nursing home would be of benefit to the Hardwick community and to its seniors, allowing them to remain living near their homes.
- 65 and over with a disability. According to the latest American Community Survey 5-Year Averages, there were 114 individuals in Hardwick identified as having a disability. In addition to social services to address some of these needs, there are wheelchair accessible units in the Bemis Block, Highland Hills Apartments and Maple Street Apartments. Although not exclusively for seniors, South Main Street and Cherry Street have wheelchair accessible units available as well.
- 18 to 64 with a disability. There were 182 individuals in Hardwick with some kind of disability. Depending on the severity of the limitation, human services, transportation services, or special construction (handicapped accessibility) may be required. Social services are available in Hardwick although special living situations for those in serious conditions do not exist.
- Families in poverty. According to latest ACS estimates, 16.8% of Hardwick families have been living below the poverty level within the past 12 months. All of these families have one or two children. Federal programs provide housing assistance but there is limited availability for those under 65 in Hardwick. Bemis Block has 14 approved units (seniors and those with disabilities), Maple Street has 16 approved units (seniors only); Cherry Street has 8 units of affordable housing designed for families (2 to 3 bedroom units).

## Fair housing

Hardwick has few areas of concern at this time. The zoning and subdivision regulations have been written to allow for multifamily housing, mobile home parks and other housing options to ensure affordable housing options are available to residents. The zoning district lines and regulations have not been written to isolate or single out any group and the bylaws are administered and enforced without bias.

## **Goals, Policies, & Recommendations**

### **GOAL**

- For Hardwick to have safe and affordable housing available in a variety of types for all incomes, ages, and for those with special needs.

### **POLICIES**

- Multifamily housing is encouraged in our village centers.
- Affordable housing should minimize long-term living costs through high quality design, efficient construction, energy efficiency, and proximity to employment.
- Hardwick supports efforts to assist elderly and disabled residents who wish to remain in their homes, and to community based health care systems that enable elderly and disabled people to remain in the community.

## ECONOMIC DEVELOPMENT

### Hardwick's strengths

Historically, the foundation of Hardwick's economy has been from its natural resources. Agriculture, forestry, and granite all powered the local economy. Today we are less dependent on these but they still establish a base of raw materials for value-added businesses. Hardwick has experienced significant declines in agriculture and forestry. Hardwick continues to encourage innovation, diversification, and education. A solid technical center program (see education chapter) provides a young well-trained work force for careers in these areas.

Hardwick has the infrastructure and much of the labor force necessary for economic development already in place. Hardwick has an industrial park that is equipped with municipal water, sewer, roads and 3-phase power. The town also has a sewage treatment plant with excess capacity to handle new growth. While this park is almost full, the town has located a possible site for a second industrial park. The Village areas have broadband internet access from multiple venues. The Hardwick area shows strength when it comes to value-added agricultural businesses. In 2011, the nonprofit Vermont Food Venture Center opened for business in the industrial park. This 15,000 sq. ft. multi-purpose food processing incubator, which supports about 25 small businesses a year, is managed and operated by the Center for an Agricultural Economy.

The success of the Vermont Food Venture Center created a need for expanded infrastructure to boost aggregation, distribution and storage; to grow agriculture and value-added businesses; and to attract visitors who are interested in the local food movement. The Hardwick Yellow Barn Business Accelerator and Corporate Campus (a.k.a. "Yellow Barn") is designed to meet that need. The historic yellow barn is located on Route 15 in the Highway Mixed Use District, at the gateway to the downtown area. It is immediately adjacent to the Vermont Food Venture Center. Efforts are now underway to construct the project, which consists of a new two-story building with an approximate footprint of 25,000 sq. ft., and the rehabilitation of the 4,000 sq. ft. barn into tenant space. The project currently has two anchor tenants. First floor ground space of the new building has about 3,000 square feet of space dedicated to small and emerging food producers, such as recent "graduates" of the Vermont Food Venture Center. The second floor of the new building will dedicate about 3,500 sq. ft. of office space to small and emerging businesses as well. When complete in 2021, the Town will be the owner of the Yellow Barn, and the Center for an Agricultural Economy will provide the day-to-day management. The development will have a visitor/retail component – a function that will be heightened by its location on the Lamoille Valley Rail Trail.

To assist start-up ventures, the Town has a revolving loan fund with approximately \$343,918 loans currently outstanding with 9 local businesses. As businesses repay their loans, the money is loaned out to new ventures. To date this fund has helped create and/or retain at least 75 jobs in Hardwick.

Hardwick's location at the intersection of Vermont Routes 14, 15, and 16 makes it the hub for at least seven surrounding towns. The town provides goods and services to many people beyond the borders of Hardwick.

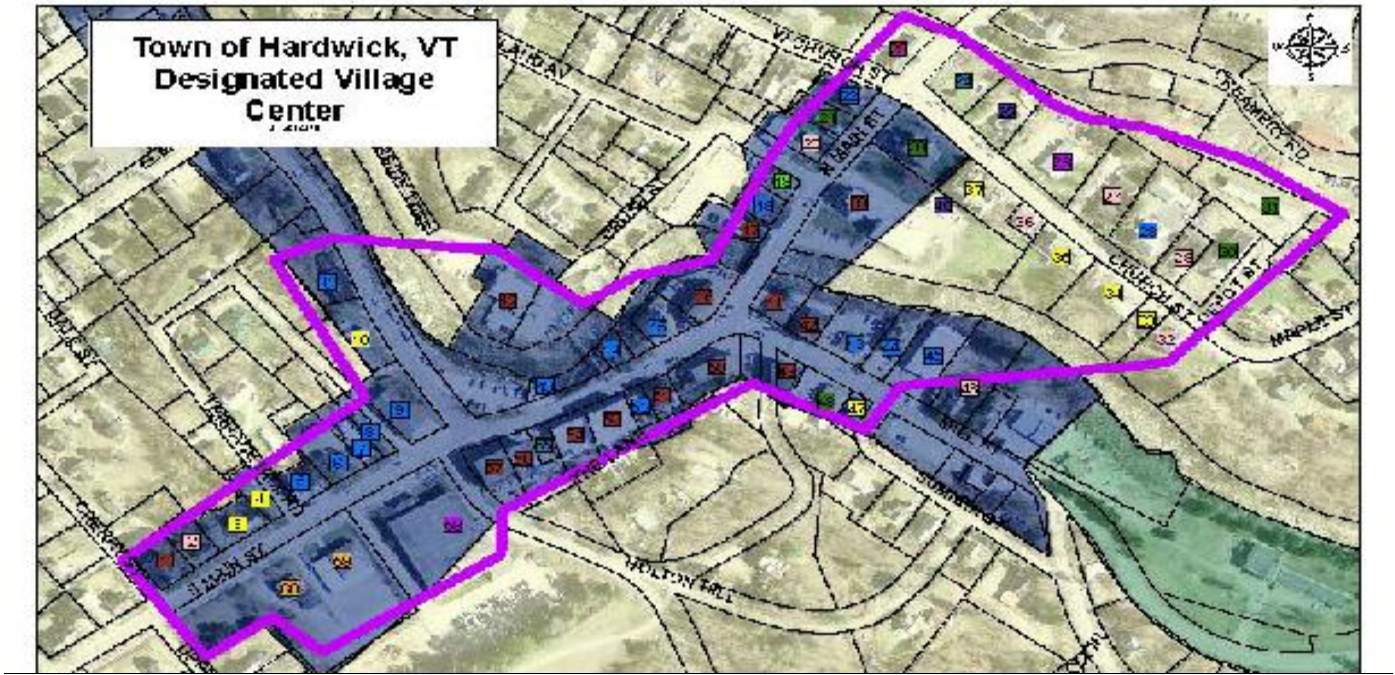
Hardwick's Downtown is enrolled in the Village Center Designation program and is often identified as a particular strength of the community.

*"The downtown is great."*

*"I love the combination of the downtown with the environment, agriculture, and landscape."*

*Hardwick Residents from the 2018 What Places Do You Love? Survey*





The Downtown currently hosts a variety of retail, restaurant, and service businesses and serves as a focal point in the community’s business sector.

Hardwick has many recreational assets which can be used to support a greater tourism and hospitality sector. Local construction on the Lamoille Valley Rail Trail has begun and Hardwick currently sits between two completed sections. The Hardwick Trails is a community hike, ski and bike system for non-motorized use. Hardwick also offers hunting, fishing, biking, hiking and cross-country ski trails, and numerous intersecting snowmobile and ATV trails.

*“The Hardwick Trails are a peaceful place to walk, run and ski. The people there are always friendly.”*

*“The trails provide great recreation space for the town, quiet space and public enrichment.”*

*Hardwick Residents from the 2018 What Places Do You Love? Survey*

### **Challenges to Hardwick’s economy**

Hardwick’s location at the intersection of many state highways makes it an excellent location for regional markets. However, the town lies approximately ½ hour from both Interstate 89 and Interstate 91, which can be a consideration for enterprise and tourism.

Hardwick is well established with respect to utilities such as sewer and electricity although some issues with the water system remain. Broadband access for the internet is available in the villages and some rural locations. Advances to the connectivity technology continue to occur but the rural spaces are still lacking in full coverage.

Hardwick still has a need for additional industrial space. The industrial park is nearly full. The area directly across from the park has accommodated some value-added processing activity as well. The Highway Mixed Use zoning district on Route 15 has some capacity for development, although the Flood Hazard overlay area creates issues for new structures. For the short- to medium-term, the production area that encompasses both sides of Route 15 may be able to accommodate up to six structures, assuming that build-out of the industrial area follows the typical footprint of an agricultural processor (approximately 6,000 to 10,000 sq. ft.). A typical

value-added producer needs about 1,000 to 3,000 sq. ft. of space. Storage is usually the greatest need – about three times that of production space. Additional locations outside of the Flood Hazard Overlay Area are under consideration.

The abovementioned additions, however, will only satisfy the interim needs for Hardwick’s manufacturing cluster. What is needed is additional – preferably neighboring or nearby -- land that will accommodate Hardwick’s agricultural and value-added food producers. This production area must leverage the community’s unique brand in order to become successful and sustainable. The existence of plentiful and affordable industrial space would be a key factor in attracting entrepreneurs.

Hardwick’s Downtown Village and East Hardwick Village also have specific needs of improvement. Additional parking, pedestrian-friendly paths, community spaces, and additional tenants in store fronts have been identified as possible improvements in Hardwick Village. East Hardwick wishes to improve their crumbling sidewalks and a lack of community spaces. Both village centers have distressed buildings which are part of the street scape.

*“Invest in Village of East Hardwick to enhance walk around and possibly bring in small businesses.”*

*“I think the downtown streetscape could use some help. More coordinated plantings, lights and help to fix up some of the more derelict buildings.”*

*“Lots of room to improve the ‘look’ of downtown and to make it more pedestrian-friendly.”*

*“We need to work with property owners to fill empty store fronts.”*

*“East Hardwick Village could use some attention as well. We look kind of shabby.”*

*“Public art to brighten up the town.”*

*Hardwick Residents from the 2018 What Places Would You Improve? Survey*



## **Vision for the Hardwick’s Future**

In 2012, the Hardwick Planning Commission conducted a land use evaluation that was largely focused on finding land that would be suitable for future industrial development. Central to this evaluation was an exploration of the kinds of businesses that were commonly deemed to be important for strengthening Hardwick’s mix of businesses, while also achieving the overall goals of the town plan (i.e. recreation,

hospitality, tourism, value-added processing). What resulted are some critical commonalities that could allow the community to support such a diverse array of economic opportunities:

- **Industrial development should achieve a balance with nature and complement and protect Hardwick’s rural resources and rural beauty.** Large-scale, intense industrial development that entails extensive impervious surface coverages (leading to run-off), traffic congestion, smoke, offensive odors, fragmentation or conversion of farmland or recreation land is not appropriate for Hardwick.
- **Siting and screening is essential in siting industrial uses.** Even though the site suitability analysis identified some areas that may be able to accommodate industrial development, siting, screening, and scale must be complementary of its surrounding uses. Commercial and light industrial enterprises near East Hardwick, for example, must complement the small village look and feel.
- **Maintaining the relationship around Hardwick’s traditional centers of development is important.** Commercial and light industrial development must not be strung along roadways leading to sprawl. Rather such uses should be sited as close to development cores as is feasible. Siting such uses closer to the downtown will be advantageous to downtown residents, who may benefit from living closer to new employment opportunities.
- **Home-Based Enterprises:** The majority of Hardwick’s businesses are small, and many are likely to be located in a residence. Home based enterprises is an important source of economic opportunity, and it may create opportunities for adaptive reuse of historic and accessory structures that would otherwise lapse into disrepair and neglect (such as old barns that are no longer part of a working farm). The Town recognizes the importance of home-based enterprises and encourages such activity as appropriate.

## Goals, Policies, and Recommendations

### GOAL

- For Hardwick to have a diverse and resilient economy based on agriculture, small business, and light industry that is compatible with Hardwick’s scenic landscape and will raise income levels and provide employment for Hardwick residents.

### POLICIES

- Industries that extract renewable resources, such as timber, should do so in a sustainable manner.
- The town encourages the development of recreationally based businesses to bring visitors to Hardwick.
- Home based businesses shall be in scale with their surroundings and context – and as an accessory to the primary residential use. Home-based business shall not create impacts that are uncharacteristic of the areas in which they are located. The town supports initiatives which will make farming and forestry more economically viable into the future.
- The town supports industries which take advantage of our local resources to produce value added products.
- Hardwick supports the “buy local” efforts.
- The town supports proposals which will provide workforce training to improve opportunities for residents in new and existing businesses.
- Economic development at the expense of the environment is not encouraged. Businesses and industries shall not degrade or endanger air, land, and water resources.

## **ACTIONS & RECOMMENDATIONS FOR IMPLEMENTATION**

- The Town Manager, the Planning Commission, and the Select Board should investigate Downtown Designation for the village area.
- The Town Manager and the Planning Commission should pursue funding to develop a new location for a second industrial park.
- The Town Manager and the Planning Commission should identify appropriate locations for the continued expansion of Hardwick's agricultural and value-added food producers.
- The Select Board should explore the feasibility of improving the appearance and the functionality of Hardwick's downtown and of East Hardwick's village center.

# LAND RESOURCES

## Geography

The Town of Hardwick is in north-central Vermont at the western edge of Caledonia County and is bordered by three counties: Orleans (north), Lamoille (west) and Washington (south). Hardwick comprises approximately 24,890 acres (38.6 square miles) of sloping farmland and forest, which extends up into hills and low mountains, all drained by the narrow valleys of the Lamoille River and its tributaries.

## Topography

### Elevation

Elevations in Hardwick range from over 1,800 feet above sea level in the northwest corner of town to a low 810 feet in the west where the Lamoille River crosses into the Town of Wolcott. Elevation is generally not a limitation to development in Hardwick as only Buffalo Mountain and some high slopes in the northwest corner of town are above 1,500 feet.

### Steep slopes

Slopes are considered “steep slopes” when they reach or exceed a 25% grade over a distance of 50 feet. Some soil types, particularly clay, are unstable at slopes as shallow as 5-8%, but based on Hardwick’s soil types, this is not usually an issue. The sand, gravel, and boulder soils found in town are generally stable to at least 30% provided that they have some vegetation cover (i.e. grass or trees). Steep slopes present problems when they are cleared for development or timber extraction because soil erosion is increased when vegetation is removed. Hardwick has many areas that are considered to have steep slopes (see Natural Resources Constraints Map). The map also identifies land with a slope over 20%. These areas have development limitations due to conventional wastewater rules established by the State of Vermont which prohibit wastewater systems on slopes above 20%.

## Geology

### Bedrock

The shallow subsurface of Hardwick contains no major faults, but it does contain three major geologic units comprised of metamorphic rocks. Rocks along and east of Route 14 belong to the “limey” Northfield Formation, those further east to the Waits River Formation, and those to the west to the Moretown Formation. The bedrock materials under Hardwick contain few metallic minerals. As is known from the history of our granite industry, there is bedrock with quality dimension stone attributes around Buffalo Mountain and areas to the south.

### Surface materials

Away from the river valleys the surface materials in Hardwick are primarily glacial till. In wet areas, the surface materials will be peat and muck. The valley bottoms and floodplains are dominated by sand and gravel river deposits and, because highways usually follow rivers, these are best developed along Routes 14, 15, and 16. Additionally, there are glacial kames (steep-sided mounds of sand and gravel deposited by a melting ice sheet) along Route 16 near East Hardwick and along the north side of Route 15 towards Wolcott.

Hardwick is rich in both sand and gravel deposits which are valuable non-renewable resources. Sand and gravel are needed for road repair and construction. These deposits are also important areas for recharging groundwater supplies.

### Soils

The type of soil in an area can determine both opportunities and limitations to construction and agriculture. Soils that pose limits to development are often characterized by excessive slope, shallow depth to bedrock, high seasonal water, instability or high erosion potential. Soils also vary in how easily they absorb water and in their load-bearing capacity. Where percolation rates are sufficient, soils can be used to treat effluent from a septic system. Soils also have qualities that make them productive for timber and agricultural by providing the medium and nutrients for growth. Primary Agricultural soils have been classified based on these and other criteria. A Soil Resources Map and Agriculture Values Map are included with this plan to show the general locations of these soils.

## **Goals, Policies, & Recommendations**

### **GOAL**

- To protect and enhance Hardwick’s land resources, including productive farm and forestland and available earth resources, in order to maintain an adequate land base to sustain farming and forestry operations and to secure needed supplies of sand and gravel for the benefit of existing and future generations.

### **POLICIES**

- Extraction and related processing operations will be permitted only when it has been demonstrated that there will be no undue adverse impacts on the town or its residents. Potential conflicts between current land use and proposed extraction operations will be minimized. Strict standards for the operation, maintenance, and restoration of extraction sites may be established as appropriate based on the unique conditions of the area affected. The full restoration of extraction sites will be ensured through the submission of site restoration plans.
- Development on slopes greater than 25 percent is prohibited.
- Further fragmentation of productive agricultural and forestland is to be avoided.
- Development within agricultural areas will be sited to minimize the permanent loss of agricultural soils. Non-agricultural structures should not be placed in open fields and meadows; such structures and related infrastructure will be set back from field edges and follow tree lines where feasible to minimize disturbance and visual impacts, and to maximize open productive space.

### **ACTIONS & RECOMMENDATIONS FOR IMPLEMENTATION**

- The town supports the efforts of organizations in the purchase of development rights and other conservation methods provided the land protected meets the objectives of this plan. Where possible, the Planning Commission and the Conservation Commission should review proposed purchases and comment based on the goals of this plan.

# NATURAL AREAS & WILDLIFE RESOURCES

## Critical wildlife habitat in Hardwick

### Deer Wintering Areas

Vermont's deer require specific winter habitat to survive the seasonally severe weather and heavy snowfall. Winter deeryards provide two features important to whitetail deer survival: shelter and food. Statewide, between 6% and 8% of Vermont's forestland is suitable for winter deer range under average winter conditions. Wintering areas do not change significantly between years and can be used by generations of deer over several decades if appropriate habitat conditions remain favorable.

### Bear Habitat

Bears require large areas of uninterrupted forestland for breeding. They also require travel corridors to move from one part of their habitat to another, especially as forested areas may be subdivided and developed. According to the Vermont Natural Resources Inventory, Buffalo Mountain and the hills in the northwest part of town are areas that can support bear year-round. Much of the river valleys support bears seasonally. Only the center of town does not have habitat to support regular use by bears.

### Rare & Endangered Species Habitat

Rare plants and animals are important for a variety of reasons. Some are indicators of unusual habitats or of environmental quality. Still others may provide compounds for medicines. Hardwick has two areas in town with rare, threatened or endangered species. To prevent disturbance or illegal collection of these species, the specific information on the species is withheld.

### Fisheries

According to Vermont Fish and Game Department's 2018 Vermont Trout Map, the entire length of the Lamoille River in Hardwick is recognized as a wild trout fishery. The river has naturally sustaining populations of rainbow trout, brown trout and brook trout. Additionally, the State of Vermont stocks the Lamoille River on a yearly basis with rainbow trout. Alder Brook and Haynesville Brook are also identified as wild trout fisheries.

### Forest Blocks & Habitat Connectors

Large blocks of unfragmented forestland provide ample opportunity for wildlife habitat and travel. Fragmentation occurs when human settlement divides large blocks of land into smaller and smaller areas. By creating gaps between blocks, fragmentation results in the direct loss of habitat. The smaller the habitat block, the smaller the number and diversity of species that can survive there.

For the first time in a century, Vermont is experiencing an overall loss of forest cover; possibly up to 69,000 acres between 2010 and 2015. The primary driver of forest fragmentation is rural sprawl. This type of fragmentation occurs incrementally, beginning with cleared swaths or pockets within an otherwise unbroken expanse of tree cover.

The loss of forests and their benefits reduces the overall sustainability and resiliency of communities both near and far from the forest. In the short term, a forest loss results in a reduction of economic goods and services, wildlife habitat, and flood mitigation capabilities. In the long term, carbon absorption and climate change mitigation benefits are lost. These short and long-term impacts can also have fiscal implications on towns

through increased costs associated with infrastructure, water quality, or flood resilience previously supplied by forests.

Since 2016, Act 171 requires town plans to identify and map forest blocks and habitat connectors that are important to the community and beyond. An assessment of the Biofinder data (<http://anr.vermont.gov/maps/biofinder>) helps to identify priority planning areas for Hardwick, which are depicted on the attached Forest Blocks and Wildlife Habitat Maps.

- **Highest priority interior forest blocks:** Areas with high-quality interior, unfragmented core forest cover (i.e. land that is more than 100 meters from the non-forest boundary).
- **Highest quality connectivity blocks:** Land or water that function as “stepping stones” between core forest, as well as riparian habitat, or strips of forest cover between developed areas.
- **Highest value wildlife blocks:** Lands that support the greatest diversity of wildlife.

Looking at these layers collectively -- and they clearly overlap -- it is evident that Hardwick’s northwest area (including Jeudevine Mountain), west (including Keeler Brook and Millard Brook) and southwest (including Buffalo Mountain area) all provide critical connectivity to a vast expanse that encompasses Wolcott, Elmore, Woodbury, and even Worcester. Places where forest blocks are close to sides of roads are likely to be important wildlife crossings, such as long stretches of Route 15 and the Craftsbury Road. Roughly half of the critical areas are included in the Forest Reserve District and the remaining half is included in the Rural Residential District. Clustering provisions and incentives in the zoning bylaw should be reviewed to determine if they are effective in promoting clustering as appropriate. Enrollment in the Current Use program and conservation easements may also effective land use tools for protected these assets.

## Goals, Policies, & Recommendations

### GOAL

- Maintain and enhance the abundance and diversity of game and non-game wildlife in Hardwick.

### POLICIES

- Critical wildlife habitat should be protected from development and other uses that threaten the ability of the habitat to support its species.
- Subdivisions and other development should avoid fragmenting habitat. Core habitat areas and interconnecting links (e.g. wetland areas, riparian zones, and travel corridors) are to be preserved.
- Rare, threatened and endangered plants and animals and their habitats will be protected and preserved through appropriate conservation techniques. Where appropriate, a buffer strip should be designed and maintained to ensure protection.

### ACTIONS & RECOMMENDATIONS FOR IMPLEMENTATION

- The Planning Commission and the Conservation Commission will support and provide guidance to any property owner with questions or concerns about their natural resources.
- A Natural Resources Inventory should be conducted throughout Hardwick.



## **WATER RESOURCES**

### **Rivers and streams**

Hardwick is fortunate to have abundant riparian resources. Nearly all of the rivers and streams in Hardwick contribute to the Lamoille Drainage Basin. A very small portion of land on the Wolcott line near Greensboro drains into the Black River (see Natural Resource Constraints Map).

#### Riparian Habitats

Plant life such as trees, shrubs, grasses and herbs along stream banks and river corridors serve to provide both food and shelter for a great many wildlife species. Several of Vermont's wildlife groups, including deer and moose, are highly dependent on riparian areas for their habitat needs. Maintaining riparian habitats is very important to both water quality and wildlife habitat.

### **Lakes and ponds**

The Vermont Department of Environmental Conservation has identified two lakes or ponds greater than 20 acres and two smaller ponds of at least ten acres in Hardwick. These bodies of water fall under the jurisdiction of the State's Shoreland regulations.

Hardwick Lake is an artificial lake created by an impoundment behind the Hardwick Lake Dam. The lake is at an elevation of 797 feet, has a surface area of 145 acres, and a watershed area of 6,876 acres. According to a state watershed assessment report (2008), aquatic life is not fully supported due to the extreme water level fluctuations. The lake is drained each winter to reduce ice dams and flooding potential in the village. Residents in Hardwick recognize Hardwick Lake as a scenic and recreational resource.

*"I love the wild places, Hardwick Trails, all the Lamoille River, Hardwick Lake. What a treasure – I see so much wildlife there! – loons, great blue herons, osprey, green herons, bald eagles, mink, red fox, deer, migrating ducks and Canada geese, snapping turtles, yellow perch, catfish, crayfish – it is alive with animals and plants, many wildflowers along the edge." – Hardwick Resident from the 2018 What Places Do You Love? Survey*

Tuttle Pond is a small secluded pond with a rich biological community. According to the watershed assessment report, there are indications that the pond may be impacted by nearby pastureland. As a result the state classifies Tuttle Pond as threatened. Tuttle Pond is a 20.65 acre natural pond, has a maximum depth estimated at only 5 feet, and is supported by a 342 acre drainage area. The two smaller ponds in town include Little Eligo Pond (14 acres) and Mackville Pond (12 acres).

### **Wetlands**

Wetlands serve a number of important functions, including storm water retention, erosion control, ground water recharge and wildlife habitat. Vermont's wetland regulations are based upon the National Wetlands Inventory. They designate all of the wetlands identified by the inventory in Hardwick as Class II, and require a 50-foot vegetated buffer between the wetland and any adjacent land development (see Water Resources Map). Any wetland that is found on the ground but is not on the map will generally be classified as class III and require a 25 foot buffer.

### **Groundwater resources**

Groundwater is the source for over 90% of the drinking water for rural communities in Vermont. It is replenished through rain and surface waters which percolate through the soil. Any activity which introduces

contaminants directly into the ground (such as underground storage tanks, septic disposal fields, and agricultural activities) can affect groundwater quality.

Public groundwater sources in Vermont have Source Protection Areas (SPA). There are three source protection areas in Hardwick; the Hardwick Village SPA, the East Hardwick Fire District SPA, and the Greensboro Bend SPA. Additionally, the Town owns a spring off of Renaud Road.

### **Water quality**

In Hardwick, two of the main issues that impact water are agricultural runoff and storm water runoff from impervious surfaces. Vermont’s Agency of Natural Resources regulates water quality for the entire state.

The Agency of Agriculture has produced “Required Agricultural Practices” (RAPs) for farms and similar standards for silvicultural operations. The Required Agricultural Practices improve the quality of Vermont’s waters by reducing and eliminating cropland erosion, sediment losses, and nutrient losses through improved farm management techniques, technical and compliance assistance, and enforcement. The RAPs establish nutrient, manure and waste storage standards, make recommendations for soil health and establish requirements for vegetated buffer zones and livestock exclusion from surface water.

## **Goals, Policies, & Recommendations**

### **GOAL**

- Hardwick’s water resources, including its lakes, ponds, streams, rivers, wetlands, groundwater, and associated habitats, should be preserved and, where degraded, improved in order to ensure water quality for drinking, recreation, and the environment.

### **POLICIES**

- All class 2 wetlands are required to have a 50-foot buffer. All class 3 wetlands are required to have a 25 foot buffer. No filling or draining of wetlands is permitted.
- All construction where soil is to be disturbed should provide adequate erosion control so that no soil moves off site or into surface waters or wetlands.
- Total impervious surfaces on developed sites should be less than 10% of the site. Where appropriate, stormwater technologies or techniques should be used to prevent runoff from directly entering any surface water.

### **ACTIONS & RECOMMENDATIONS FOR IMPLEMENTATION**

- Public education and signage should be placed at all boat accesses and public accesses to notify the public of Eurasian Milfoil and other invasive species and how to protect the lake.
- A wetland inventory of the town should be conducted.
- The Select Board should examine the feasibility of creating a new Source Protection Area which surrounds the Renaud Road spring.

# FLOOD RESILIENCE

## Flood Risks in Hardwick

In Hardwick, flooding occurs when too much rain is delivered too quickly or for too long a period which causes the streams and rivers to overflow their banks. The Lamoille River quickly becomes a rushing torrent in the hours after a particularly large thunderstorm or after several days of slow, steady rain. If the river is already “running high” due to the melting of the winter’s snowpack, the effect of these rainfall events are even more dramatic.

Additionally, if large sheets of ice or woody debris are “floated” by this rising water, they can form ice-jams or debris-dams at sites where the river is constricted by a sharp bend or a bridge. The damage to built structures caused by being submerged by water and/or rammed by icesheets/trees can be enormous. Also, there is the increased risk to human life and property due to these road closures because this impairs the response of fire and rescue emergency vehicles.

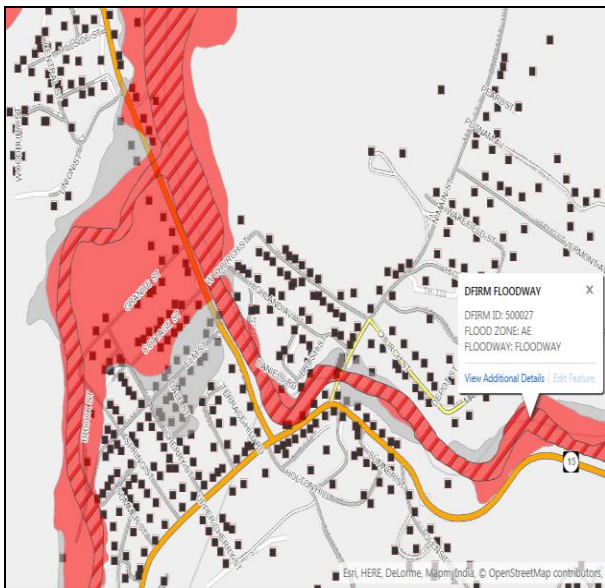
The best way to deal with flooding in Hardwick is to attempt to prevent as many of these events from happening as possible, or at least to try to reduce the damage they now can produce.



Long Reach Breaks Up Ice Jam in Hardwick  
(Copyright 2012 Tibbits Equipment Services, Inc.  
All Rights Reserved.)

## FEMA Digital Flood Insurance Rate Maps (DFIRMS)

To identify a community's flood risk, FEMA uses data to create the flood hazard maps (DFIRMS) that outline your community's different flood risk areas. Some parts of floodplains may experience frequent flooding while others are only affected by severe storms. However, areas directly outside of these high-risk areas may also find themselves at considerable risk. It has been 40 years since the Effective Date for the FIRM's for Caledonia County but updates are currently in process and are expected to be complete by 2021. The Flood Insurance Rate Map for Hardwick dates to 1984 and received minor updates in 1987 and in 2002.



**Hardwick Flood map data: Close-up of FIRM for Downtown Hardwick**

## The Cost of Flooding to Hardwick

Many people think that if they do not live near a river or the coast, they are not in danger of flooding, giving them a false sense of security. Floods are the number one natural disaster in the United States and in a high-risk area; your home is more likely to be damaged by flood than by fire. Presently, Hardwick has 29 flood insurance policies in the Special Flood Hazard Area. FloodReadyVermont.gov estimates that 96 buildings are located in the Special Flood Hazard area.

## The Lay of the Land & Flood Damage Risk

The Town of Hardwick is situated in an area where the landscape greatly controls where buildings, roads, and agriculture can occur, and thus both creates a large risk of flood damage while also limiting the options for flood mitigation. The majority of Hardwick is relatively gently-sloped land lying at elevations between 1000 and 1500 feet. This surface is incised by three major river valleys; Lamoille River (east-west), Alder Brook (north-south), and Cooper Brook (south-north). Agricultural

fields are confined to the “flatter” area away from these rivers, as well to the wider portions of the level floodplains alongside them, with the remaining areas of town being forested. The highways and many roads follow the river valleys and their tributaries as seen by Route 16 and much of Route 15 bordering the Lamoille River and by Route 14 traveling alongside Alder Brook, the Lamoille River, and Cooper Brook.

## Culverts & Bridges

The combination of roads, steep slopes, and running water not only constitute areas of higher Road Erosion risk, it also often marks areas where the Town of Hardwick has installed and maintains culverts and bridges. The VTCulverts.org database shows that Hardwick has 478 culverts, with the majority found to be in fair to poor to good condition. The two critical culverts are on Porter Brook Road and Scott Road. The “urgent” culvert is on Brown Farm Road.

**Table 1: Hardwick Highway Culvert Conditions (2019)**

Excellent	6
Good	219
Fair	192
Poor	55
Critical	2
Urgent	1
Unknown	3

Source: VTCulverts.org

Hardwick maintains 26 bridge structures according to the VTCulverts.org database. Eleven bridges are indicated to be in good condition, 9 are in unknown condition, and 5 are in fair condition. The bridge which spans Tucker Brook Road is the only bridge listed as being in poor condition.

## Critical Facilities

Critical facilities are essential to a community’s resilience and sustainability. Because they are defined by their ability to quickly and efficiently respond to and recover from floods, critical facilities should never be flooded, and their critical actions should never be conducted in floodplains if at all avoidable. Hardwick has two critical facilities in the Special Flood Hazard Area – the fire station and the Hardwick Electric garage. The town should consider a full range of options to mitigate risk to these structures in the future in order to ensure continuity of services during a disaster.

## Goals, Policies, & Recommendations

### GOAL

- To encourage a flood-resilient community.

### POLICIES

- New development in identified flood hazard, fluvial erosion, and river corridor protection areas should be avoided. If new development is to be built in such areas, it should not exacerbate flooding and fluvial erosion.
- Flood plains and upland forested areas that attenuate and moderate flooding and fluvial erosion should be protected and restored.
- Flood emergency preparedness and response planning should be encouraged.

## **ACTIONS & RECOMMENDATIONS FOR IMPLEMENTATION**

- Maintain and regularly update the Local Emergency Operations Plan.
- Continue to meet the VTrans Road and Bridge standards. Encourage participation in regional road foreman trainings and Transportation Advisory Committee meetings.
- Attempt to achieve yearly updating of the Town's transportation infrastructure information in the Vermont Online Bridge and Culvert Inventory Tool.
- Identify and replace undersized and failing culverts.
- Relocate the Fire Station and HED garage out of the floodplain or flood proof these structures to 500-year flood standards.
- Maintain and regularly update the Local Hazard Mitigation Plan.

## **PUBLIC AND PRIVATE FACILITIES & SERVICES**

### **Hardwick's government**

Prior to 1988, Hardwick had both a Village and a Town government. In 1988, they merged into one entity and a new Town charter was written and approved by the Vermont Legislature. Hardwick operates under a Town Manager form of government. The manager reports to the Select Board made up of five elected citizens. The manager is responsible for the day to day operations of the Town and prepares the annual budget for approval by the Select Board. Staff employed by the Town includes a police chief, police officers, public works foreman and crew, water and wastewater systems operator, administrative staff persons and a half time zoning administrator.

There are a number of boards, committees, and positions appointed by the Select Board. These include the Planning Commission, the Development Review Board, Conservation Commission, Hardwick's representative to the Northeastern Vermont Development Association (NVDA), the Hardwick Electric Department Board of Commissioners, and the Hardwick Recreation Committee. In addition to the 5 members of the Select Board, Town Clerk, and Treasurer, there are also more than twenty elected positions including three listers, three auditors, two constables (no authority assigned), four cemetery commissioners, and seven library trustees. Adoption of budgets and election of officials are done at the annual Town Meeting, held the first Tuesday in March.

### **Water systems**

The Town of Hardwick operates a water system that serves 646 customers in the main business and residential district of Hardwick including the former Village and the industrial park. The Hardwick Water Department is funded entirely by user fees and receives no money from the Town General Fund.

The East Hardwick Fire District operates a water system supplying 70 customers in the Village of East Hardwick. User fees fund the system. The system is fed by gravity from a well field and is stored in a concrete reservoir above the village for delivery to system users. There are several hydrants in the Village area, maintained by the Fire District.

### **Sewage and septic systems**

The Hardwick Sewer Department serves 582 customers, covering an area similar to the water lines. The Hardwick Sewer Department, like the Water Department, is funded entirely by user fees and receives no money from the Town General Fund. The wastewater treatment facility is an aerated lagoon system built in 1980. It has a rated capacity of 371,000 gallons of domestic sewage per day.

One significant area of concern is the age of the wastewater collection system. Some of the sewer lines date back 100 years or more. Town staff have identified streets where sewer lines have partially collapsed, but the Town has made significant efforts to slip line and replace bad sections of piping and that effort will continue until all damaged lines have been repaired.

Outside of the village service area, all sewage is treated via individual, on-site septic systems. Permitting and enforcement of these systems is the responsibility of the State Department of Environmental Conservation Regional Office in St. Johnsbury.

## **Public safety**

### Police

The Police Department's service area includes approximately 75 square miles, including the Towns of Hardwick and Greensboro. The Department currently maintains a staff of 8 full-time Certified Police Officers, 2 part-time Police Officers, and a Dispatcher/Administrative Secretary. The Officers consist of a Chief of Police, Sergeant, Detective, and uniformed Patrol Officers.

### Rescue

The Hardwick Emergency Rescue Squad responded to 512 calls in 2017, including standby at community events and at structure fires. The service area includes all of Hardwick Greensboro, Craftsbury, Wolcott, Woodbury, and Stannard, as well as parts of Walden, Elmore, West Wheelock, and East Calais.

### Fire

Currently the Fire Department has 20-23 members. Hydrants are well distributed throughout the area served by the village water system. If the reservoir is drawn down to a certain level, an automated system sends water from the Town wells to the reservoir, in order to maintain adequate water flows. There are several hydrants in the village area which are maintained by the Fire District. Presently, the hydrants in East Hardwick are not in service due to undersized waterlines feeding them.

The Department has been installing a dry hydrant system to give better access to water in the rural areas of town. There are currently dry hydrants on West Hill, Cobb School Road, Porter Brook Road and two at Mackville Pond. The Fire Department coordinates with the Rescue Squad and has a "jaws of life" to assist them. Hardwick participates in a Mutual Aid Agreement with other area Departments.

### Emergency Coordination

The Emergency Relief and Assistance Fund (ERAF) provides Public Assistance grants through the Federal Emergency Management Agency (FEMA) to Vermont cities and towns to repair damaged infrastructure after a presidentially declared disaster. The state typically contributes half of the required 25 percent non-federal match for approved projects. Under new ERAF rules, the Town receives level funding from the state as a match to FEMA funds. The Hazard Mitigation plan was updated and accepted in 2018.

### Hardwick Area Community Justice Center

The Hardwick Area Community Justice Center provides restorative resolution options to people affected by crime and to those responsible for crimes and other offenses to individuals and the community. Volunteer-led restorative programs and practices were utilized for the Hardwick Area community to process a total of 35 case referrals in 2018 with an 86% positive completion rate.

### AWARE

AWARE is a non-profit established in 1984 and dedicated to resolving the causes and effects of domestic violence and sexual assault in the greater Hardwick area. AWARE provides services year-round, 24 hours a day. The organization is focused on two priorities: crisis intervention and prevention education.

## Health services

The Hardwick Area Health Center is part of Northern Counties Health Care, Inc., a non-profit organization administering several rural health clinics in the Northeast Kingdom. It operates a family care facility providing general health care for Hardwick and surrounding towns. Health maintenance is emphasized through a variety of educational programs and special clinics.

Hardwick is also fortunate to have two dental offices- the Hardwick Dental Group and Northern Counties Dental Center. There are also local specialists in physical therapy as well as a variety of mental health providers. Hardwick is also home to many holistic medical providers such as chiropractic care, Reiki, acupuncture, massage therapy, and more.

Copley Hospital is the closest full care facility, located in Morrisville, 13 miles to the west. Providing continuity of care, the Health Center physicians are also members of the staff at Copley Hospital. Other area hospitals include North Country Hospital in Newport, Northern Vermont Regional in St. Johnsbury, Central Vermont Hospital in Berlin, and the Fletcher Allen Health Center in Burlington.

## Child care

Childcare is a critical service for many families, especially single parent families and where both parents work. Child care facilities are all privately operated although there are some state programs to help individuals and families pay for the service. According to the state childcare database ([www.brightfutures.dcf.state.vt.us](http://www.brightfutures.dcf.state.vt.us)), in 2018 there were 7 registered child care homes and three licensed child care facilities in town.

## Jeudevine Memorial Library

The Jeudevine Memorial Library has transformed in the past twenty years from a building from the past – full of old books – to a vibrant modern place with new collections and excellent educational programs for both children and adults. As more people use the library, it becomes increasingly pressing that the library have more space to offer the collections, services and ADA accessibility. A capital campaign is underway to expand the Jeudevine.

*“We need an accessible library with a pleasant meeting room for community groups.”*

*Hardwick Resident from the 2018*

*What Places Would You Improve? Survey*



2019 Proposed Jeudevine Memorial Library Expansion - Rendering courtesy of NBF Architects.

## Cemeteries

There are seven cemeteries in the Town of Hardwick with four of these under the care of the Hardwick Cemetery Trustees. Main Street Cemetery, Maple Street Cemetery, Fairview Cemetery, and Sanborn Cemetery are all under the care of the Cemetery Trustees. West Hill Cemetery, Hardwick Center Cemetery, and Hardwick Street Cemetery are under the authority of the Select Board and are under the care of the town public works crew.



## Recreation facilities

The Town has a volunteer Recreation Committee with a paid part-time coordinator who coordinates a number of activities for community members including a summer swimming program, an outdoor skating rink at Atkins Field, and a variety of on-going activities. The Committee is currently improving the Mackville Pond Recreation Area by adding new tables, grills, and a new playset.

*“Make Mackville Pond more ‘family friendly’ again.”*

*Hardwick Resident from the 2018 What Places Would You Improve? Survey*

Hardwick’s recreation facilities also include the ball fields at Hazen Union High School and at the Elementary School. Men and Women’s softball leagues use Hazen Union during the summer as well as two privately maintained fields, Shepard’s field on Bridgman Hill and the Hootie Dome in East Hardwick. Little League is played at the Hardwick Elementary field. Hodgdon field, located on the corner of Cottage and Cherry Streets is used for T-Ball. There are also two public tennis courts located at Hazen Union.

The Center for Agricultural Economy has improved the recreational facilities at Atkins Field. There is now a bicycle pump track and community gardens. Atkins Field is in the midst of a multi-phase renovation which will ultimately include hiking trails and outdoor education spaces, as well as the winter skating rink.

*“Atkins Field is a great asset – particularly with the cooperation of the Ag Center.”*

*Hardwick Resident from the 2018 What Places Do You Love? Survey*

The volunteer Hardwick Trails Committee (under the Recreation Department) maintains six miles of hiking/walking trails, groomed for cross country skiing in the winter, and six miles of single-track biking trails. These trails, begun in 2003, are located in the woodlands behind Hazen Union School. They host nature-based events, races, charity fund-raising events as well as the annual Pumpkin Walk in October which draws 500-700 community participants.



The Town of Hardwick is currently making plans to extend a bike path west of the village. This trail system would also use existing paths maintained by the Vermont Association of Snow Travelers (VAST).

In addition to the Lamoille Valley Rail Trail, the VAST has an entire network of trails throughout the state. The Vermont All-terrain vehicle Sportsman’s Association (VASA) also has plans for an expanded ATV trail network in Hardwick.



*“I would love the rail trail/bike path to be finished and open.”*

*“Let’s get the Rail Trail finished through town and connect East Hardwick!”*

*Hardwick Resident from the 2018 What Places Would You Improve? Survey*

The plan is to connect the Lamoille Valley Rail Trail, the Hardwick Trails, the Hardwick to Woodbury Rail Trail, and other local trails. The Hardwick Trails also has a long range cooperative plan to connect to the Highland Lodge and Craftsbury Outdoor Center ski trails.

### **Solid waste facilities**

Hardwick is a member of the Central Vermont Solid Waste Management District (CVSWMD), a municipal district formed to serve 22 towns in Central Vermont. Funding for CVSWMD expenses is covered entirely by user fees and service fees. More information on CVSWMD can be found at [www.CVSWMD.org](http://www.CVSWMD.org) In addition to CVSWMD, there are private haulers for curbside pickup as well as All Metals Recycling (AMR) and Gates Salvage.

### **Town owned buildings and properties**

According to the Grand List the Town of Hardwick owns 33 properties totaling 153.96 acres. These include 0.40 acre for the Memorial Building, 14.00 acres for the wastewater treatment facility, 70.5 acres on Buffalo Mountain Road and 36.5 acres on Hopkins Hill Road. In addition to the Town-owned lands the Hardwick School District owns 13.1 acres associated with the elementary school and the Hazen Union School District owns 96.7 acres with the high school. Hardwick Electric also owns 7 properties totaling 380.3 acres, most of this associated with 320 acres on Billings Road. The East Hardwick Fire District owns 94.38 acres.

### **Other public lands**

Within the Town of Hardwick are four properties owned by the State of Vermont, two by the Agency of Transportation (AOT) and two by the Vermont Department of Fish and Wildlife (F&W). The AOT properties are associated with the Glenside landslide region along Route 15. The F&W properties are associated with accesses onto Hardwick Lake (Craftsbury Rd) and the Lamoille River (Route 15).

## **Goals, Policies, & Recommendations**

### **GOAL**

- To ensure adequate facilities and services are available to protect and enhance the lives of the residents, visitors, and businesses of Hardwick.

### **POLICIES**

- Hardwick’s cemeteries should be maintained with respect and dignity and have sufficient capacity to support future need.
- Developers of large residential projects should include adequate open space for recreation by the future residents of the project.
- The Health Officer or Select Board should report any failed wastewater systems to the State for compliance with State wastewater regulations.

### **ACTIONS & RECOMMENDATIONS FOR IMPLEMENTATION**

- The Select Board should support efforts to fund improvements to the Lamoille Valley Rail Trail.

# EDUCATION

## Current facilities

### Hardwick Elementary School

Hardwick's youngest students (k-6 grades) attend the Hardwick Elementary School at the Hardwick campus of the Orleans Southwest Unified District (OSUED) within the Orleans Southwest Supervisory Union (OSSU). The present building opened its doors to students in 1961. Currently, there are 240 students enrolled. The school can accommodate 360 students and is not considered to have a space problem at this time.

### Hazen Union High School

Hazen Union opened its doors in 1970 and serves the communities of Hardwick, Greensboro, and Woodbury. Additionally, a few students from Stannard, Walden, Wolcott, and Wheelock attend on a tuition basis. Vocational students attend classes at Hazen Union and the Green Mountain Technology and Career Center (GMTCC) located in Hyde Park with a satellite facility in Hardwick. Currently there are 310 students enrolled. Hazen Union School can accommodate approximately 500 students and is not considered to have a space problem at this time.

### Community use of facilities

The buildings and athletic fields of Hardwick Elementary and Hazen Union are used for a wide variety of activities and events by groups within the community and beyond. These include craft fairs, basketball and volleyball players using gyms, a community chorus, a Tae-kwon Do class, and a diversity of occasional events, from a Fish and Wildlife boating safety course to candidate forums. It is also the site for annual events such as Town Meeting Day and the Annual Alumni Banquet. The Little League uses the athletic fields at Hardwick Elementary. The fields at Hazen Union are used by a women's softball league, a men's softball league and for Babe Ruth baseball.

## Other educational services

### Early education

Orleans Southwest Supervisory Union academic development programs include:

- Preparation for Kindergarten
- Learning through doing
- Individualized attention and activities
- Conferencing with teachers and parents
- Progress monitoring

Orleans Southwest SU has two public preschool programs within the supervisory union and partners with local providers either in a partnership or subcontract. Any child who resides in the towns of Craftsbury, Greensboro, Hardwick, Stannard, Wolcott, or Woodbury may attend a preschool program for a maximum of 10 hours at no charge, provided the tuitions between the school district and program are the same. If not, the difference must be negotiated between the provider and parent. Some programs may have age specifications and may provide less than 10 hours.

Head Start and Early Head Start have a satellite program in Hardwick. These programs provide comprehensive, family-centered services for parents and children, with resources and referrals. Support services are provided to children with special needs. Currently the programs run from September to May and are part-time. Hardwick Head Start is located in the Masonic Temple but is exploring other options to allow for expansion of the program.

### Essential Early Education

Orleans Southwest Supervisory Union has a goal to foster competence in the social, emotional, cognitive, and physical development of preschool children at risk of later school difficulty. This can be accomplished through an educational approach individualized to the needs of each young child in the child's home, community and/or early childhood center. The Early Education Program of the Orleans Southwest Supervisory Union provides a comprehensive early intervention program for eligible children ages 'birth through five' including those who are disabled, disadvantaged, or otherwise at risk for school failure.

A child may access one or more of the following programs:

- Essential Early Education (EEE) is special early education for eligible children ages three through five.
- Early Compensatory Education (ECE) is offered for children ages three through five who are delayed in language and communication skills. This is considered a preventative program for children.
- Children's Integrated Services – Early Intervention is for children birth to three with specific concerns regarding health, language, social, cognitive or emotional needs.

### Vocational training

GMTCC offers career and technical education to all incoming juniors and seniors as well as adult learners in the surrounding school district areas. There are programs in automotive technology, business administration, computers, forestry and land management, manufacturing technology, and health and human services among others.

### Personalized Learning Plans

Schools are now obligated to prepare students for higher education or technical careers by customizing their educational programs as early as the elementary school. Personalized Learning Plans will include such activities as field-based learning, job shadowing, and community experiences outside of the classroom.

### Place-Based Education

Through a partnership between the Orleans Southwest Supervisory Union and the Center for an Agricultural Economy (CAE), Hardwick and Hazen students have an expanded place-based and food systems education. CAE seeks to strengthen the school and community connections through expanded opportunities for teachers, students, and the community. A variety of programs have been created, including farm field trips, school gardens, harvest dinners, internship opportunities, etc. As a component of this partnership, Hazen has introduced an Artisan and Entrepreneur Academy for the 2019-20 school year. Classes include "Woodcrafts to Market," "Printmaking to Market," and an Artisan Trade Independent Study.

### Art Based Programs

A growing number of non-profit entities have initiated art classes for all ages. Wonder Arts and GRACE both have programs throughout the year.

### Jeudevine Memorial Library

The library offers a wide range of educational opportunities and programs for all ages, from the youngest children to the oldest of adults.

## **School governance**

As a result of Act 46, the Hardwick School Board has transitioned into the Orleans Southwest Union Elementary District (OSUED) Board. OSUED includes representation from Greensboro and Stannard at the Lakeview Union Elementary at the Greensboro campus, Hardwick Elementary at the Hardwick campus, and Woodbury Elementary at the Woodbury campus. The Board is responsible for policy setting and identifying the knowledge, skills and dispositions that each student will develop before graduating. Each town has representation on the board. As a result of this merger, children entering grades K-6 who live in the towns of Greensboro, Hardwick, Stannard, and Woodbury may enter the elementary school in their town of residence or may apply to attend an elementary school in another OSUED town. Intra-District Choice will be granted based on space availability.

The Hazen Union Board of Directors is responsible for policy setting and identifying the knowledge, skills and dispositions that each student will develop before graduating. There are eight seats on the board of which Hardwick has four seats, which are elected at Town Meeting for three year terms.

## **Educational attainment**

According to most recent American Community Survey 5-Year Estimates, 88 percent of Hardwick's residents over the age of 25 have a high school diploma or equivalent. This is below the statewide average of 92.3 percent and may indicate a need for educational services in this area. In 2000, only 78.0 percent of residents had a diploma so significant improvements are being made.

A look at college attainment figures reveals that 22.8 percent of residents have completed a bachelor's degree or higher which is below the state wide average of 36.8 percent. This figure has changed since 2000 when only 13.5 percent had a four year degree.

## **Adult educational services and facilities**

There are a few places nearby where college level classes are available. In Morrisville the Community College of Vermont (CCV) has a satellite office where classes are taught. CCV offers programs in business and liberal arts as well as nursing. CCV also operates instructional sites in Hardwick and some of the surrounding towns.

The nearest private college is Sterling College located in Craftsbury. Johnson State College and Lyndon State College are both four-year colleges that have recently merged to create Northern Vermont University. Both campuses are located within 30 miles of Hardwick. Vermont has created the Early College program which enables students to simultaneously complete 12<sup>th</sup> grade, earn a secondary diploma and complete the first year of college.

As mentioned earlier, GMTCC offers adult education for anyone who is no longer enrolled in a traditional high school. Another resource for adult education is Central Vermont Adult Basic Education. CVABE is a non-profit organization that provides free instruction to individuals no longer enrolled in public school.

## **Goals, Policies, & Recommendations**

### **GOAL**

- To provide educational services and facilities to meet the needs of Hardwick's community.

### **POLICIES**

- Hardwick supports efforts to broaden educational and vocational opportunities.
- Hardwick recognizes the importance to our community of high quality early education and day care. Hardwick supports organizations that provide these services.
- Hardwick supports the GMTCC and their efforts to broaden access to education for adult learners and to provide vocational opportunities for students.

### **ACTIONS & RECOMMENDATIONS FOR IMPLEMENTATION**

- The Select Board should support and facilitate the Jeudevine Memorial Library's efforts to improve its educational and social services.

# TRANSPORTATION

## Highways

### Classification & Function

Vermont's local roads are classified according to their importance and general use. This classification system applies to all town highways, and is used to determine the amount of state highway assistance provided to each community. Class 1 roads are those highways that while the responsibility of the town to maintain, are extensions of the state highway system and carry a state highway route number. Hardwick has 1.5 miles of class 1 roads including portions of Routes 14 and 15 that ran through the former village. Class 2 roads are the most important highways serving as corridors between towns, and consequently carry a large volume of local and regional traffic. Center Road, East Main Street (Greensboro Bend), Hardwick Street/East Church Street, and Belfry Road are Class 2 roads. Class 3 roads are comprised of secondary town highways that are passable year round by standard vehicles. Class 4 roads are dirt roads which are typically functional for only part of the year for normal traffic. The following table illustrates town highway mileages in Hardwick and surrounding communities.

**Table 2. Town highway mileage by classification**

<i>Town</i>	<i>Class 1</i>	<i>Class 2</i>	<i>Class 3</i>	<i>Total local (excluding Class 4 &amp; Legal Trail)</i>	<i>Class 4</i>	<i>Legal Trail</i>	<i>Total State</i>
<b>Hardwick</b>	<b>1.5</b>	<b>11.3</b>	<b>52.5</b>	<b>65.3</b>	<b>5.7</b>	<b>1.6</b>	<b>16.1</b>
Craftsbury	0	18.2	42.4	60.6	6.5	2.7	8.0
Greensboro	0	11.2	44.9	56.1	11.8	0	7.7
Walden	0	9.1	33.5	42.6	10.0	3.4	7.2
Wolcott	0	10.7	38.2	48.9	7.4	4.58	7.0
Woodbury	0	5.1	31.8	36.9	25	1.2	7.7

Source: VT AOT 2019

### Traffic

Traffic volumes increased slightly or remained stagnant in recent years. This marks a reversal of the earlier long-term trend of rising traffic volumes.

### Road Maintenance Costs

During the 2018 fiscal year, the Town allocated \$807,944 for maintaining the Town highways and garage. In addition to the operation funds identified above, the Town of Hardwick set aside \$291,375 of funding for equipment purchases and specific highways projects. The table below illustrates the net local highway expenditures in Hardwick and similar towns for the same-fiscal year (including state aid spent on roads).

**Table 3. Local road maintenance costs.**

<i>Town</i>	<i>Road Miles</i>	<i>Fiscal year allocation</i>	<i>\$ budgeted/road mile</i>
<b>Hardwick (FY 18-19)</b>	<b>65.3</b>	<b>\$807,944</b>	<b>\$12,373</b>
Greensboro (FY 18-19)	56.1	\$686,296	\$12,233
Wolcott (FY 18-19)	48.9	\$582,524	\$11,913
Woodbury (FY 18-19)	36.9	\$394,800	\$10,699

Source: 2018 Budget Data: Town Annual Reports Road Miles: VT AOT

## Town Bridge & Highway Standards and Network Inventories

The town has adopted basic bridge and highway standards and has completed a preliminary network inventory in 2007. This inventory was updated in 2013. Vtrans expects the inventory to be updated every three years. Keeping these up to date will help Hardwick qualify for reduced matching requirements in State-sponsored road and bridge programs.

## **Rail**

### AMTRAK

The closest passenger rail service for Hardwick residents is Amtrak, located in Waterbury, Montpelier and Essex Junction. All of these depots serve Amtrak's "Vermont" line with a daily run between St. Albans and Washington, D.C.

## **Air**

Hardwick residents are provided air transportation service through the Morrisville-Stowe State Airport on Route 100 in Morristown, and through the Burlington International Airport in South Burlington.

## **Recreational and non-vehicular transportation**

### Snowmobile Trails

The Vermont Association of Snow Travelers (VAST) maintains a network of snowmobile trails on private and public lands across the state. VAST trails through private and public lands connect Hardwick to all of the surrounding towns. VAST trails are maintained and groomed by volunteers, and provide an important link in a statewide recreation network. <http://www.vtvast.org>

### ATV Trails

All-terrain vehicle (ATV) use is growing in popularity and there is interest in developing a trail network similar to VAST. The Vermont ATV Sportsman Association (VASA) is interested in developing ATV recreation in Vermont and in providing ATV trail access in collaboration with other groups and landowners. <http://vtvasa.org/>

### Bicyclists, Pedestrians and Others

Most of Hardwick's local roads were designed with only the auto traveler in mind. As cyclists and pedestrians use these roads, conflicts can arise from lack of space and poor shoulders. The ongoing development of the Lamoille Valley Rail Trail will potentially alleviate these issues. Future road projects should be designed to give greater consideration to non-motorized users.

## **Transit services**

### Buses/Human Services Transportation

Local bus service does not exist in Hardwick. For Hardwick residents, the nearest Vermont Transit sites are in St. Johnsbury, Waterbury, and Montpelier. Rural Community Transport (RCT) provides service by appointment to Lamoille, Caledonia, and Orleans County residents. RCT is a nonprofit corporation providing transportation to the elderly and disabled, Medicaid and general public through a van/bus and volunteer service. RCT transports people to adult day service facilities, senior meal sites and necessary medical treatments.



## **Goals, Policies, & Recommendations**

### **GOALS**

- Pedestrian and non-vehicular transportation networks should be safe and conveniently located to encourage their use.
- To support efforts to provide regional public commuter transportation services for the general public and special transportation services for those who require assistance.

### **POLICIES**

- Hardwick should adopt a Complete Streets philosophy that includes universal design for accessibility.
- The town should continue planning for trailhead connections to the Lamoille Valley Rail Trail.
- Hardwick supports the use of bio-fuels and electric vehicles.

### **ACTIONS & RECOMMENDATIONS FOR IMPLEMENTATION**

- The Town should assess road and bridge conditions every three years to establish maintenance and repair priorities.
- The Select Board should continue to seek funding to improve and extend sidewalks.
- The town should review truck parking and seek opportunities to increase safe downtown parking.
- Hardwick should consider using bio-fuels or electric vehicles wherever economically possible. This can be through use in school buses and other municipal vehicles.
- The town should encourage the provision of safe and convenient alternatives to automobile travel for local trips, including the investigation of a commuter bus route from Hardwick to Montpelier, where many residents work.
- The Select Board should examine the feasibility of placement of electric charging stations in Hardwick.

# ENERGY SOURCES

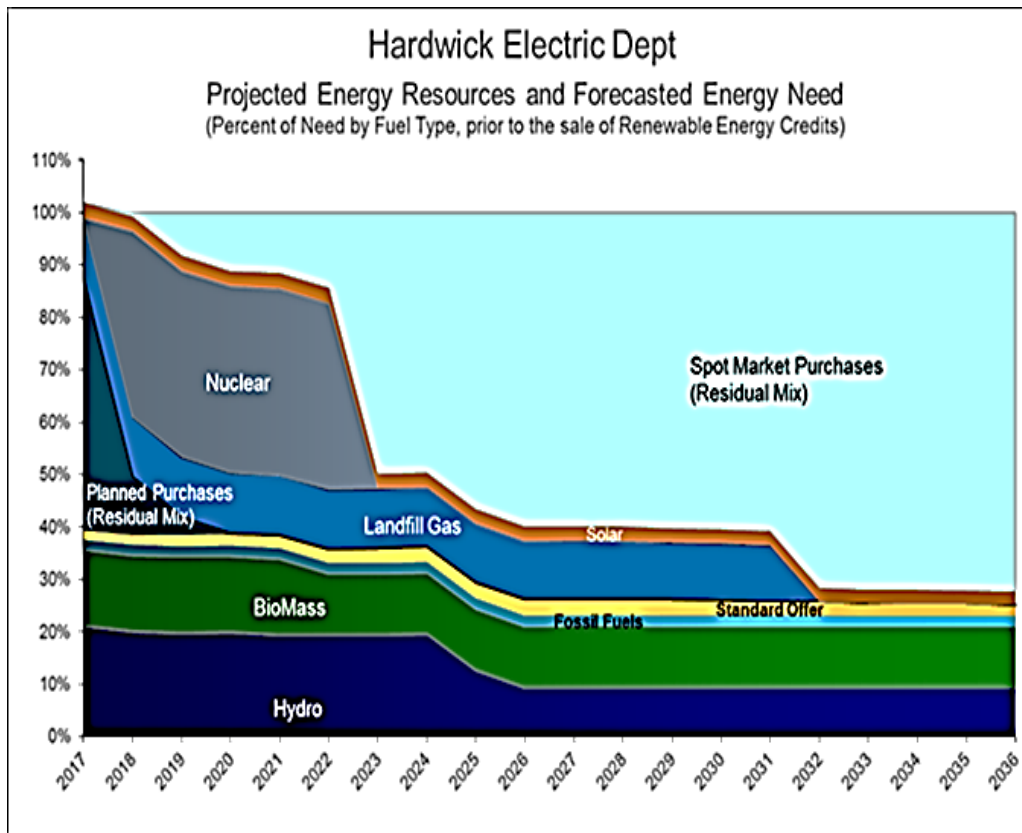
Energy plans are generally grouped into three areas: electricity, heating, and transportation.

## Electricity

Electricity can be generated from a variety of sources including hydro, nuclear, and fossil fuels (coal, oil, and natural gas). Other potential sources of electricity include solar, wind, biomass (wood burning), and methane recovery (from landfills and farms).

Hardwick Electric Department (HED) serves 4300 customers in 11 towns with 350 miles of transmission lines. It

owns a hydro-electric generating facility in Wolcott and receives part of its electric power from this facility; otherwise there is no commercial generation in the Town of Hardwick. The remainder of needed power is purchased from various regional and statewide entities producing power from hydro, natural gas (Massachusetts Municipal Wholesale Electric Company), solar and biomass (McNeil wood burning facility in Burlington and Vermont ‘Electric Power Producers Inc.). See chart at left.

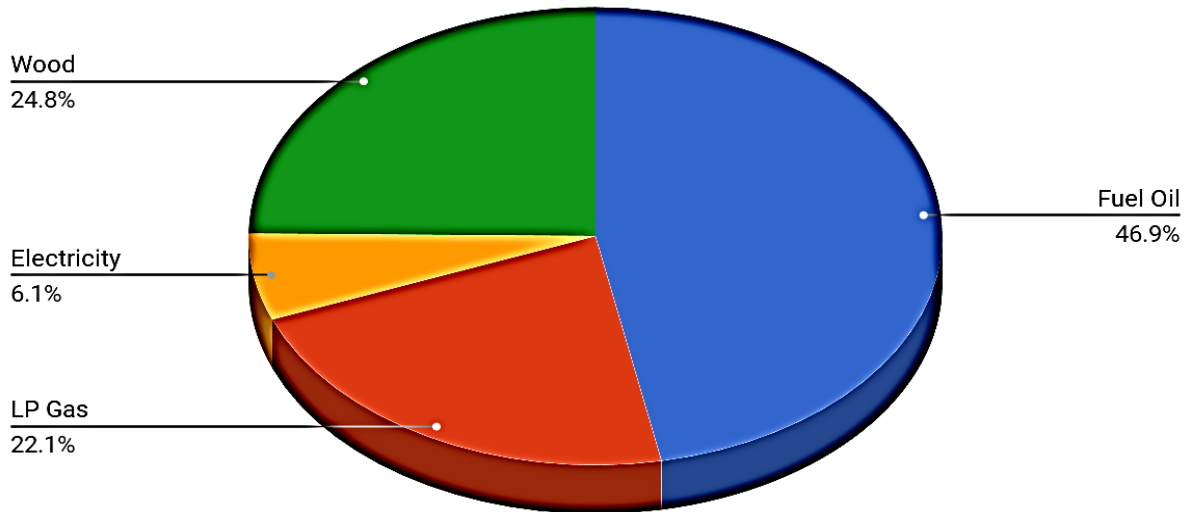


There is a possibility of developing a micro-generating station at the site of a dam in Mackville. Old dams in East Hardwick and Nichols Pond offer less potential as future micro-generating sites.

The development of home and community-scale renewable energy is encouraged by the Hardwick Electric Department. There are numerous home related solar arrays in the town and a few windmills that take part in a net metering program. Under examination and on the drawing board are plans for a 1.5 megawatt solar PV power generating facility in a sand pit owned by the town. This facility would produce about 4% of HED’s projected future power needs. The Hardwick area is not seen presently as having potential for large scale wind power development.

## Heating

The heating of homes and businesses comprises an important sector of energy planning in northern Vermont. The most important source of heat in Hardwick is fuel oil. Wood is the most used renewable source for heating, both as cordwood and as pellets. Its prominence as a primary or secondary source of heat supports a need for local forest management and public education of energy conservation methods. The following chart from the 2015 American Community Survey 5-Year Averages summarizes current use of heating fuels in Hardwick.



## Transportation

Walking and biking presently provide a minor role in transportation. Plans are in development to expand these non-motorized modes of transportation. The bulk of energy needs for transportation are provided by fossil fuels. There is a need for the development of public transportation, especially between Hardwick and nearby communities in Vermont.

## Energy Consumers

### Municipal Facilities and Services

Presently the Town of Hardwick spends a significant part of its budget on the energy needs of schools, public buildings, and the town highway department. There are efforts to upgrade vehicles, equipment, and buildings to provide more efficient use of energy.

### Residential, Commercial, and Industrial

The Town of Hardwick has voted to become a Clean Energy Assessment District, which allows residential properties to participate in the Property-Assessed Clean Energy (PACE) program. The PACE program is a way of financing energy efficient home improvements by borrowing money and tying the payments to the property rather than the owner. PACE financing payments can be transferred to a new homeowner at any time, even before the assessment has been paid off. Transferability helps to ensure that investments will serve current property owners in the short term, and provide future residents with lower energy bills and improved comfort. Projects may include, but are not limited to whole home air sealing and insulation, window retrofits, heating

system upgrades, water heater replacements, pellet boilers, and renewable installations such as solar, wind and geothermal. PACE also improves the housing stock of the town, contributes to the town's energy goals, and promotes job growth in the field of energy efficiency. Currently, the PACE program, administered by Efficiency Vermont, is on hold.

## **Goals, Policies, & Recommendations**

### **GOALS**

- To increase the proportion of locally-generated energy from renewable sources, whether for heating, electricity, or transportation.
- To promote energy efficiency and conservation in the design, construction, and use of municipal, commercial, industrial, and residential structures.

### **POLICIES**

- Hardwick supports its residents in using wind and solar to generate electricity locally provided scenic and aesthetic concerns are met.
- Hardwick encourages the development of home and community-scale renewable energy.

### **ACTIONS & RECOMMENDATIONS FOR IMPLEMENTATION**

- The Select Board and School Board should continue to realize energy savings through energy audits of all municipal buildings and the use of life cycle costing practices that incorporate long-term energy savings in the fiscal analysis of facility construction and equipment purchases.
- The town should consider establishing a new energy reserve fund that will help cover the cost and leverage other funds for planned improvement projects to improve energy efficiency.
- The Select Board should participate in Section 248 hearings that relate to projects within the Town to review applications and assure that the requirements as set forth in the Town Plan are met.

## **HOW THE PLAN RELATES TO THE REGIONAL PLAN AND ADJACENT MUNICIPALITIES**

Hardwick shares borders with Greensboro to the north, Walden to the east, Woodbury to the south, Wolcott and a small portion of Elmore to the west. Additionally, Stannard and Cabot meet Hardwick at corners.

Most of the surrounding towns have an agricultural base, many commuters, village centers with mom and pop stores or gas stations, and a significant number of self-employed individuals and other small enterprises. The Cabot Creamery is the only major employer in the adjacent towns.

One major land use goal of this plan is to retain agricultural and forest potential while preserving options for landowners. This is a goal shared widely in the region. Hardwick's goal of creating employment opportunities for local people and expanding goods and services available in Hardwick should benefit surrounding towns.

No negative impacts or incompatible development is anticipated as a result of the actions of this plan.

### Regional Plan

Nothing in the Hardwick Town Plan 2019 is expected to be in conflict with the regional plan or will have a negative effect on any future implementation of the regional land use plan. The Hardwick Planning Commission is willing to work with Northeastern Vermont Development Association to address any concerns they may have.

## APPENDIX A: HARDWICK’S TOOLS AND OPTIONS FOR PLAN IMPLEMENTATION

Guide to terminology:

- Short Term would be 1-2 years.
- Medium Term would be 3-8 years.
- Long Term would be 8+ years.
- Ongoing would be continual.

Topic Area	Action Steps	Projected Time Frames
Historic, Scenic, and Archeological Resources	<ul style="list-style-type: none"> <li>• Hardwick should continue to support the endeavors of the Hardwick Historical Society.</li> </ul>	✓ Ongoing
Historic, Scenic, and Archeological Resources	<ul style="list-style-type: none"> <li>• The Select Board should continue to support the Village Center Designations in the Hardwick Village and in East Hardwick</li> </ul>	✓ Ongoing
Historic, Scenic, and Archeological Resources	<ul style="list-style-type: none"> <li>• The Select Board should explore a tax stabilization program for downtown façade improvements.</li> </ul>	✓ Short Term
Historic, Scenic, and Archeological Resources	<ul style="list-style-type: none"> <li>• The Select Board should continue to provide funds that will make a significant contribution to those matching funds raised by local organizations and individuals for the purpose of maintaining or improving the above named historic structures owned by the Town of Hardwick. Line items for these funds for each of these buildings should be included as part of the town budget.</li> </ul>	✓ Ongoing
Historic, Scenic, and Archeological Resources	<ul style="list-style-type: none"> <li>• Where an archeological site is discovered on an undeveloped property or part of a property, the town supports the purchase of development rights on the effected portion as a means of compensating landowners for the loss of development rights. Purchase of development rights are always on a willing seller basis.</li> </ul>	✓ Ongoing
Economic Development	<ul style="list-style-type: none"> <li>• The Town Manager, the Planning Commission, and the Select Board should investigate Downtown Designation for the village area.</li> </ul>	✓ Short Term
Economic Development	<ul style="list-style-type: none"> <li>• The Town Manager and the Planning Commission should pursue funding to develop a new location for a second industrial park.</li> </ul>	✓ Medium Term
Economic Development	<ul style="list-style-type: none"> <li>• The Town Manager and the Planning Commission should identify appropriate</li> </ul>	✓ Short Term

Topic Area	Action Steps	Projected Time Frames
	locations for the expansion of Hardwick’s agricultural and value-added food producers.	
Economic Development	<ul style="list-style-type: none"> <li>The Select Board should explore the feasibility of improving the appearance and the functionality of Hardwick’s downtown and of East Hardwick’s village center.</li> </ul>	✓ Short Term
Land Resources	<ul style="list-style-type: none"> <li>The town supports the efforts of organizations in the purchase of development rights and other conservation methods provided the land protected meets the objectives of this plan. Where possible, the Planning Commission and the Conservation Commission should review proposed purchases and comment based on the goals of this plan.</li> </ul>	✓ Ongoing
Natural Areas and Wildlife Resources	<ul style="list-style-type: none"> <li>The Planning Commission and the Conservation Commission will support and provide guidance to any property owner with questions or concerns about their natural resources.</li> </ul>	✓ Ongoing
Natural Areas and Wildlife Resources	<ul style="list-style-type: none"> <li>A Natural Resources Inventory should be conducted throughout Hardwick.</li> </ul>	✓ Short Term
Water Resources	<ul style="list-style-type: none"> <li>Public education and signage should be placed at all boat accesses and public accesses to notify the public of Eurasian Milfoil and other invasive species and how to protect the lake.</li> </ul>	✓ Short Term
Water Resources	<ul style="list-style-type: none"> <li>A wetland inventory of the town should be conducted.</li> </ul>	✓ Short Term
Water Resources	<ul style="list-style-type: none"> <li>The Select Board should examine the feasibility of creating a new Source Protection Area which surrounds the Renaud Road spring.</li> </ul>	✓ Medium Term
Flood Resilience	<ul style="list-style-type: none"> <li>Maintain and regularly update the Local Emergency Operations Plan.</li> </ul>	✓ Ongoing
Flood Resilience	<ul style="list-style-type: none"> <li>Continue to meet the VTrans Road and Bridge standards. Encourage participation in regional road foreman trainings and Transportation Advisory Committee meetings.</li> </ul>	✓ Ongoing
Flood Resilience	<ul style="list-style-type: none"> <li>Identify and replace undersized and failing culverts.</li> </ul>	✓ Short Term
Flood Resilience	<ul style="list-style-type: none"> <li>Attempt to achieve yearly updating of the</li> </ul>	✓ Ongoing

Topic Area	Action Steps	Projected Time Frames
	Town's transportation infrastructure information in the Vermont Online Bridge and Culvert Inventory Tool.	
Flood Resilience	<ul style="list-style-type: none"> <li>Relocate the Fire Station and HED garage out of the floodplain or flood proof these structures to 500-year flood standards.</li> </ul>	✓ Long Term
Flood Resilience	<ul style="list-style-type: none"> <li>Maintain and regularly update the Local Hazard Mitigation Plan.</li> </ul>	✓ Ongoing
Public and Private Facilities and Services	<ul style="list-style-type: none"> <li>The Select Board should support efforts to fund improvements to the Lamoille Valley Rail Trail.</li> </ul>	✓ Short Term
Education	<ul style="list-style-type: none"> <li>The Select Board should support and facilitate the Jeudevine Memorial Library's efforts to improve its educational and social services.</li> </ul>	✓ Ongoing
Transportation	<ul style="list-style-type: none"> <li>The Town should assess road and bridge conditions every three years to establish maintenance and repair priorities.</li> </ul>	✓ Ongoing
Transportation	<ul style="list-style-type: none"> <li>The Select Board should continue to seek funding to improve and extend sidewalks.</li> </ul>	✓ Ongoing
Transportation	<ul style="list-style-type: none"> <li>The town should review truck parking and seek opportunities to increase safe downtown parking.</li> </ul>	✓ Short Term
Transportation	<ul style="list-style-type: none"> <li>Hardwick should consider using bio-fuels or electric vehicles wherever economically possible. This can be through use in school buses and other municipal vehicles.</li> </ul>	✓ Ongoing
Transportation	<ul style="list-style-type: none"> <li>The town should encourage the provision of safe and convenient alternatives to automobile travel for local trips, including the investigation of a commuter bus route from Hardwick to Montpelier, where many residents work.</li> </ul>	✓ Ongoing
Transportation	<ul style="list-style-type: none"> <li>The Select Board should examine the feasibility of placement of electric charging stations in Hardwick.</li> </ul>	✓ Short Term
Energy	<ul style="list-style-type: none"> <li>The Select Board and School Board should continue to realize energy savings through energy audits of all municipal buildings and the use of life cycle costing practices that incorporate long-term energy savings in the fiscal analysis of facility construction and equipment purchases.</li> </ul>	✓ Ongoing



Topic Area	Action Steps	Projected Time Frames
Energy	<ul style="list-style-type: none"> <li data-bbox="435 142 1062 321">• The town should consider establishing a new energy reserve fund that will help cover the cost and leverage other funds for planned improvement projects to improve energy efficiency.</li> </ul>	✓ Short Term
Energy	<ul style="list-style-type: none"> <li data-bbox="435 331 1062 510">• The Select Board should participate in Section 248 hearings that relate to projects within the Town to review applications and assure that the requirements as set forth in the Town Plan are met.</li> </ul>	✓ Ongoing