





## Credits

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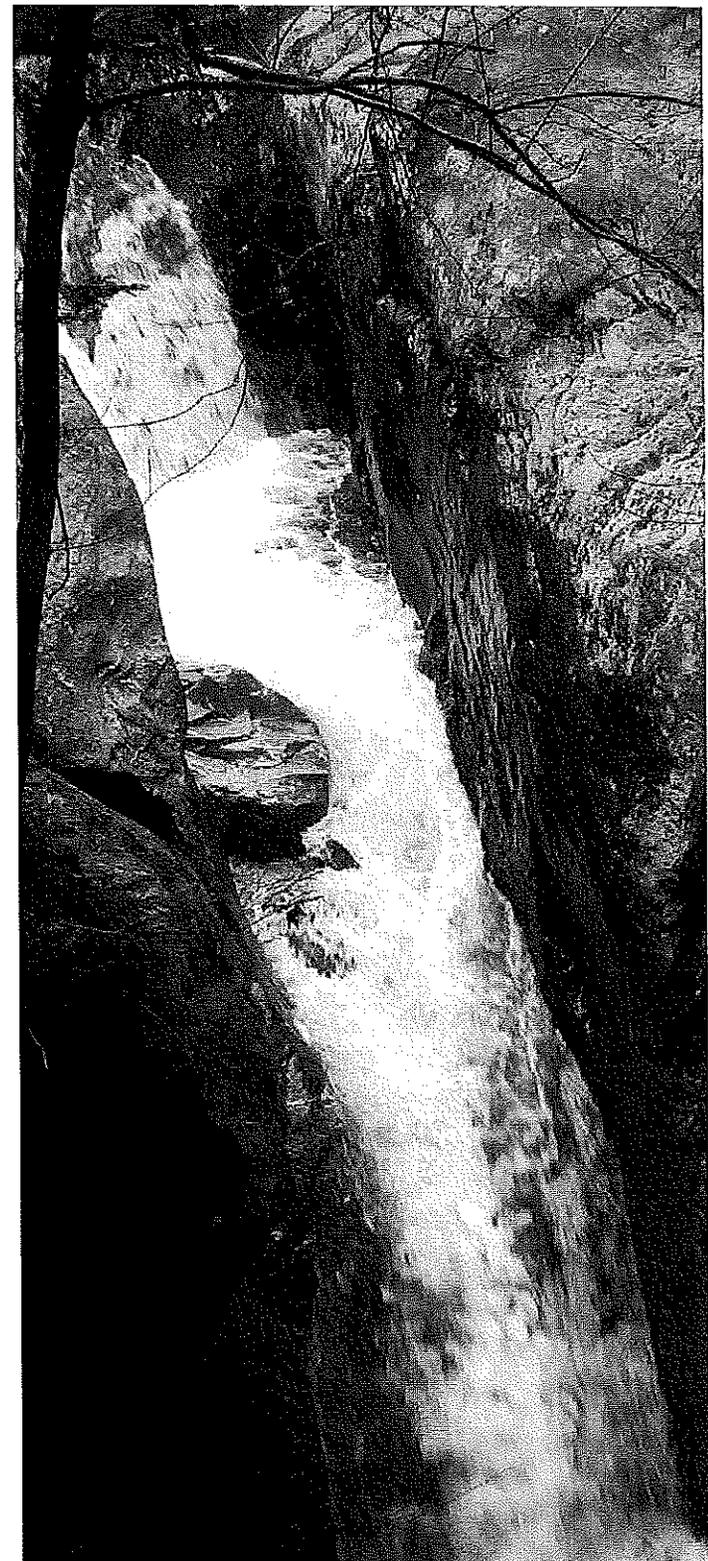


# 1 vision and goals

## 1.1 VISION

We envision that the Town of Warren will remain a small town with a distinctive sense of place rooted in a rugged, yet fragile landscape. That landscape will continue to shape Warren – its character and way of life – even as climatic and market conditions bring change to the ski industry that shaped the community as we know it today. People will continue to visit and choose to live in Warren because our landscape offers scenic beauty and supports an active outdoor lifestyle. To guide and adapt to the inevitable changes the future will bring, Warren will need to:

- Foster an appreciation and responsible stewardship of the natural resources and open spaces upon which our community's identity and economy are dependent;
- Respect our heritage and preserve the historic resources that contribute to our community's distinctive character;
- Recognize that love of the outdoors and active recreation are defining elements of our community's way of life and are values shared by residents and visitors alike;
- Creatively and cooperatively respond to the challenges that a changing climate will bring to our tourism-dependent community and region; and
- Have open, responsive and effective town governance.





# GOALS

The 2019 Warren Town Plan is consistent with the state planning goals as required by the Vermont Planning and Development Act and demonstrated below. Warren’s planning goals largely mirror the state’s planning goals. The table that follows states Warren’s overall goals and identifies the related objective(s) established in Chapter 4 of this plan. To be ‘consistent with a goal’ requires that one or more objectives identified in this plan will result in substantial progress being made in Warren towards attaining the stated goal. In some cases, the Town of Warren as a municipal government is not the primary party responsible for making substantial progress towards a stated goal and it may not have the authority to take the actions necessary to make substantial progress. In that case, to be ‘consistent’ should be interpreted to mean that the objectives and strategies stated in this plan, the purpose of which is to guide the decisions and actions of Warren as a municipal government, would not impede the primarily responsible party(s) from making substantial progress towards the goal.

<p>1</p>	<p>To plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside Warren will:</p> <ul style="list-style-type: none"> <li>☑ Preserve the town’s rural character, cultural heritage and historic working landscape;</li> <li>☑ Preserve the town’s historic settlement pattern, defined by compact villages surrounded by rural countryside;</li> <li>☑ Foster conscientious growth and controlled development in the town; and</li> <li>☑ Develop a compact village core at the immediate base of Lincoln Peak and Sugarbush Village to serve as one of the town’s primary growth centers alongside the historic Warren village center.</li> </ul>	<p>Objectives <u>1, 3, 4, 5, 6, 8, 9, 11, 12, 15, 16, 17</u></p> <p><i>Land use planning and regulation is a primary responsibility of town government, which Warren fulfills by administering its Land Use Regulations and other related town ordinances.</i></p>
<p>2</p>	<p>To provide a strong and diverse economy that provides satisfying and rewarding job opportunities and that maintains high environmental standards, and to expand economic opportunities in areas with high unemployment or low per capita incomes Warren will:</p> <ul style="list-style-type: none"> <li>☑ Promote a diverse local economy characterized by varied employment and entrepreneurial opportunities;</li> <li>☑ Support those businesses and industries that contribute to Warren’s rural character and high quality of life; and</li> <li>☑ Support the economic viability of Sugarbush Resort and other businesses that contribute to the Valley’s attractiveness as a four-season resort destination.</li> </ul>	<p>Objectives <u>6, 7, 8, 9, 10, 13, 20, 22</u></p> <p><i>Economic development is a responsibility of town government, which Warren fulfills by working with and supporting partner organizations.</i></p>
<p>3</p>	<p>To broaden access to educational and vocational training opportunities sufficient to ensure the full realization of the abilities of all residents Warren will:</p> <ul style="list-style-type: none"> <li>☑ Support educational programs and facilities that enable every child to become a competent, caring, productive, responsible individual and citizen through our participation with the Harwood Unified Union School District and the regional career and technical education programs.</li> </ul>	<p>Objectives <u>18, 22, 23</u></p> <p><i>Provision of education is not a responsibility of town government, but Warren as a community fulfills this goal through its participation in the school district’s planning and governance processes, and through taxes paid to the state education fund.</i></p>



<p>4 To provide for safe, convenient, economic and energy efficient transportation systems that respect the integrity of the natural environment, including public transit options and paths for pedestrians and bicyclists Warren will:</p> <ul style="list-style-type: none"> <li>☐☐ Maintain and improve a transportation system that is safe and efficient;</li> <li>☐☐ Support programs that encourage minimizing transportation energy consumption and trips, like park and ride, electric vehicle charging stations and ride sharing programs;</li> <li>☐☐ Support regional efforts to provide and maintain systems that meet the needs of all segments of the population; and</li> <li>☐☐ Support efforts to develop additional paths for non-motorized transportation.</li> </ul>	<p>Objectives <u>3, 6, 10, 12, 15, 16, 17, 22, 23</u></p> <p><i>Provision of transportation systems is a shared responsibility of town and state government, which Warren fulfills through maintenance of the town road and sidewalk network, participation in state and regional transportation planning, and support of the regional transit provider and trail organizations.</i></p>
<p>5 To identify, protect, and preserve important natural and historic features Warren will:</p> <ul style="list-style-type: none"> <li>☐☐ Promote a greater understanding and appreciation of Warren’s historic and cultural heritage.</li> </ul>	<p>Objectives <u>1, 5, 13, 14, 16</u></p> <p><i>Resource protection is a responsibility of town government, which Warren fulfills within the context of its authority to regulate land use and by support of local and regional organizations dedicated to such purposes.</i></p>
<p>6 To maintain and improve the quality of air, water, wildlife, forests, and other land resources Warren will:</p> <ul style="list-style-type: none"> <li>☐☐ Maintain, preserve and enhance the town’s natural resources and environmental quality for the benefit of future generations; and</li> <li>☐☐ Regulate land development in a manner which protects important natural and community resources including farm land, forest resources, important wildlife habitat and water quality while allowing for diverse land uses in appropriate locations.</li> </ul>	<p>Objectives <u>2, 8, 14</u></p> <p><i>Environmental protection is a shared responsibility of town and state government, which Warren fulfills within the context of its authority to regulate land use and by support of local and regional organizations dedicated to such purposes, but with recognition that the town must work within the framework of federal and state laws and regulations that establish environmental standards.</i></p>
<p>7 To make efficient use of energy, provide for the development of renewable energy resources, and reduce emissions of greenhouse gases Warren will:</p> <ul style="list-style-type: none"> <li>☐☐ Promote conservation of renewable and nonrenewable energy;</li> <li>☐☐ Encourage programs that reduce direct and indirect transportation demands; and</li> <li>☐☐ Encourage development of local renewable energy sources.</li> </ul>	<p>Objectives <u>3, 8, 12, 13, 15</u></p> <p><i>Energy generation and regulation of energy use is not a responsibility, or within the authority, of town government, but Warren fulfills this goal by participating in state and regional energy planning efforts and regulatory proceedings to represent and advocate for the interests of the municipality, and by meeting its obligations under state law related to administering state energy codes.</i></p>



<p><b>8</b> To maintain and enhance recreational opportunities for residents and visitors Warren will:</p> <ul style="list-style-type: none"> <li>☑️ Continue support of both commercial and community-based programs that develop and maintain recreational opportunities like paths, parks and sports programs.</li> </ul>	<p>Objectives <u>6, 10, 15, 18, 23</u></p> <p><i>Provision of recreational opportunities is a municipal responsibility, which Warren fulfills by development and maintenance of municipal recreation sites and facilities, offering recreation programs, and supporting local and regional organizations working to provide recreational opportunities.</i></p>
<p><b>9</b> To encourage and strengthen agricultural and forest industries Warren will:</p> <ul style="list-style-type: none"> <li>☑️ Support conservation efforts that target a working landscape;</li> <li>☑️ Encourage the development of a variety of diverse agricultural industries; and</li> <li>☑️ Encourage the management of woodlots following the current best practices.</li> </ul>	<p>Objective <u>9</u></p> <p><i>Encouraging agricultural and forest industries is a municipal responsibility, which Warren fulfills within the context of its authority to regulate land use and through its conservation fund.</i></p>
<p><b>10</b> To provide for the wise and efficient use of Vermont's natural resources and to facilitate the appropriate extraction of earth resources and the proper restoration and preservation of the aesthetic qualities of the area Warren will:</p> <ul style="list-style-type: none"> <li>☑️ Continue to support local environmental programs like the Mad River Path Association, The Friends of The Mad River, and the Ridge to River Program.</li> </ul>	<p>Objectives <u>11, 13, 22, 23</u></p> <p><i>Ensuring the efficient use of natural resources, the appropriate extraction of earth resources and the preservation of aesthetic qualities is a shared responsibility of town and state government, which Warren fulfills within the context of its authority to regulate land use.</i></p>
<p><b>11</b> To ensure the availability of safe and affordable housing for all Vermonters Warren will:</p> <ul style="list-style-type: none"> <li>☑️ Accommodate the town's fair share of the region's population growth to maintain community vitality and diversity;</li> <li>☑️ Encourage the development of affordable housing and net residential housing units;</li> <li>☑️ Encourage the development of accessory dwellings;</li> <li>☑️ Monitor the rate of housing development in an effort to accommodate the town's projected population in a manner that does not overburden public services and is consistent with the town's rural character and natural resources;</li> <li>☑️ Encourage development of diversity of housing types and prices in locations convenient to employment, town facilities, services, and commercial centers consistent with traditional settlement patterns; and</li> <li>☑️ Support efforts to maintain the existing affordable housing stock.</li> </ul>	<p>Objectives <u>7, 20, 22, 23</u></p> <p><i>Provision of housing is not a municipal responsibility, but Warren fulfills this goal by ensuring its land use regulations allow for housing in accordance with the town's obligations under state law, and through planning for and providing infrastructure in locations where housing development is desired.</i></p>



<p><b>12</b> To plan for, finance and provide an efficient system of public facilities and services to meet future needs Warren will:</p> <ul style="list-style-type: none"> <li>☐☐ Provide an environmentally sound and cost-efficient system of community services, facilities and utilities to meet present and future demands of Warren citizens and visitors; and</li> <li>☐☐ Expand community facilities and services in a manner consistent with the goals and objectives of this plan.</li> </ul>	<p>Objectives <u>3, 4, 5, 11, 12, 15, 16, 17, 18, 22, 23</u></p> <p><i>Provision of public facilities and services is a municipal responsibility, which Warren fulfills through its ongoing efforts to plan for, construct and maintain municipal infrastructure, facilities and services.</i></p>
<p><b>13</b> To ensure the availability of safe and affordable child care and to integrate child care issues into the planning process, including child care financing, infrastructure, business assistance for child care providers, and child care work force development Warren will:</p> <ul style="list-style-type: none"> <li>☐☐ Support through local ordinances safe and affordable child care services that will enable Warren residents to work out of the home while providing for their children's care.</li> </ul>	<p>Objectives <u>18, 22, 23</u></p> <p><i>Provision of childcare is not a municipal responsibility, but Warren fulfills this goal by ensuring its land use regulations allow for childcare facilities in accordance with the town's obligations under state law.</i></p>
<p><b>14</b> To encourage flood resilient communities Warren will:</p> <ul style="list-style-type: none"> <li>☐☐ Maintain the Special Flood Hazard and Fluvial Erosion Hazard overlay districts in Warren's Land Use and Development Regulations; and</li> <li>☐☐ Maintain a Hazard Mitigation Plan.</li> </ul>	<p>Objectives <u>14, 20, 22, 23</u></p> <p><i>Encouraging flood resiliency is a municipal responsibility, which Warren fulfills through its participation in the NFIP, hazard mitigation planning and projects, and within the context of its authority to regulate land use.</i></p>
<p><b>15</b> To establish a coordinated, comprehensive planning process and policy framework to guide decisions at the town, regional and state level Warren will:</p> <ul style="list-style-type: none"> <li>☐☐ Maintain an active, ongoing local planning process;</li> <li>☐☐ Encourage the widespread involvement of all Warren citizens at all levels of the Town's planning and decision-making process; and</li> <li>☐☐ Seek ongoing cooperation and coordination with neighboring towns in the Mad River Valley, the Central Vermont region and the state.</li> </ul>	<p>Objectives <u>4, 8, 11, 17, 18, 19, 20, 21, 22, 23</u></p> <p><i>Comprehensive planning is a municipal responsibility, which Warren fulfills through adoption of a town plan, active participation in the MRVPD and CVRPC, and participation in state level planning and regulatory processes.</i></p>



1.3

## IMPLEMENTATION PROGRAM

The Town of Warren intends to pursue the following priority actions over the next five years to implement the goals and objectives expressed in this plan. While these are the town's priority actions, other strategies identified in this plan should be pursued during this period as opportunities arise.

1	Update the Town of Warren Land Use Regulations in accordance with the strategies outlined in <u>Section 4.3</u> .	Planning Commission to start work in 2019
2	Adopt and maintain a capital budget and program that is consistent with this plan.	Ongoing effort by Selectboard
3	Investigate sharing of resources with Valley towns such as fire response and highway maintenance services and facilities.	Ongoing effort by Selectboard
4	Prepare a recreation and pedestrian path plan, potentially in coordination with other Valley towns,	Planning Commission to start work by 2022
5	Complete the Main Street Project and planned improvements to the Town Green.	By 2024 with involvement of multiple parties



# about the plan

## 2.1 PLANNING PROCESS

### 2.1.01 WHY PLAN?

Planning is an essential part of our lives – we look ahead, identify needs, set goals, budget time and resources and attempt to achieve desired outcomes. Looking ahead and anticipating change makes sense.

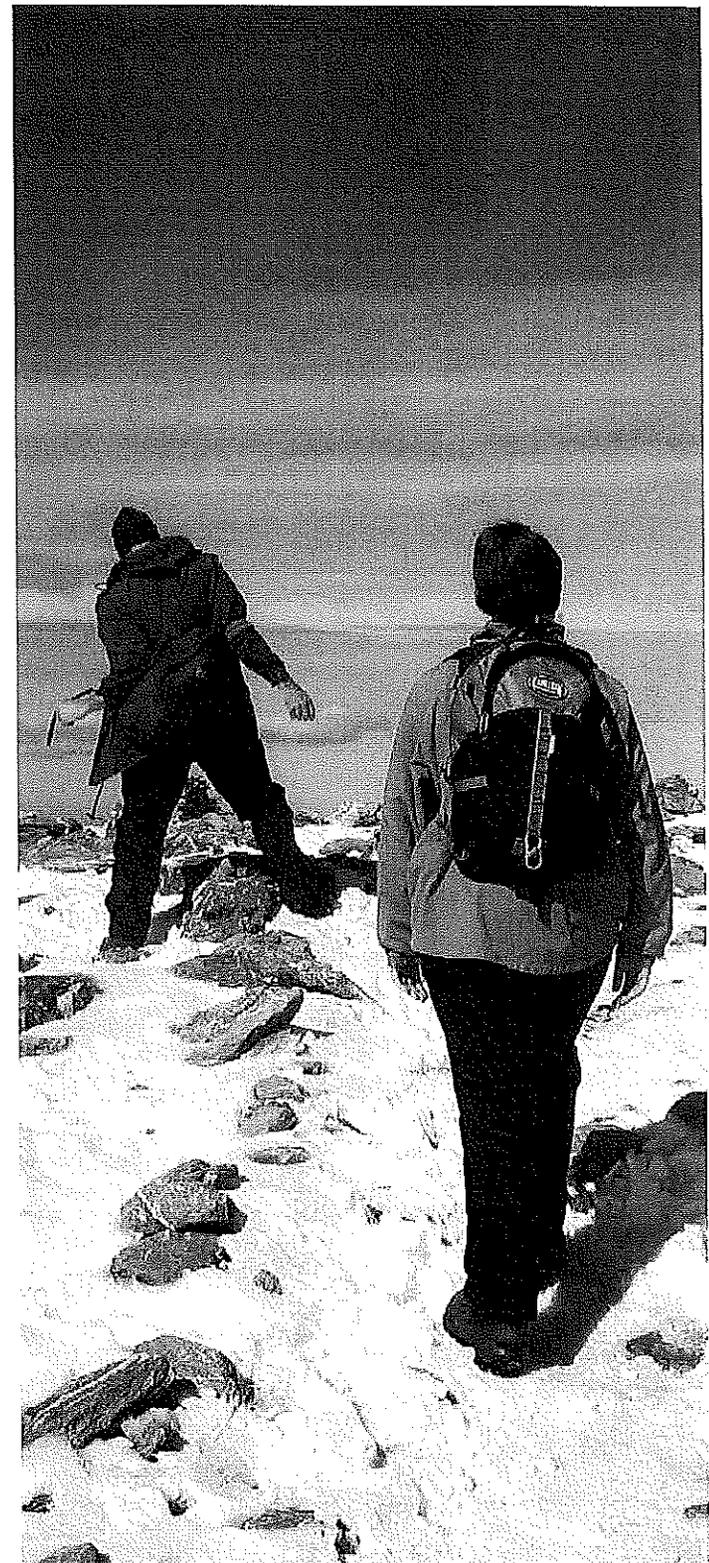
Town planning follows this same process. Through planning, towns can protect community interests, maintain a measure of local control, better manage public investment and the allocation of tax dollars, protect important natural and cultural resources, promote development in appropriate locations, and nurture the local institutions that define community life. Faced with economic, technological and cultural changes, Warren has recognized for many decades that the town can take full advantage of the future without forfeiting the town's heritage and unique character.

Vermont encourages its municipalities to plan by offering those that do benefits such as eligibility or priority for various funding and programs. Further, state statute requires towns to have a plan in order to adopt or amend land use and development regulations.

### 2.1.02 PURPOSE

The Town Plan establishes a long-term vision for Warren and outlines a means of achieving that vision. It should serve as the primary reference when making community decisions and local officials should look to the plan for guidance when setting public policy. The Town Plan:

- Provides a foundation for the town's land use and development regulations;
- Serves as a blueprint for any anticipated revisions to the town's development land use and development regulations;





- Guides applicants, citizens, the Development Review Board, other state and town officials during local and state regulatory processes;
- Defines the existing and planned level of service for public facilities and services;
- Recommends a strategy for allocating resources to maintain those levels of service, and carrying out any specific proposals for new or improved community facilities or services;
- Guides town, state and federal officials in other regulatory, administrative or legislative processes involving state or federal agencies or neighboring towns; and
- Serves as the foundation for policies, programs and regulations designed to ensure the conservation, preservation and use of natural and cultural resources.

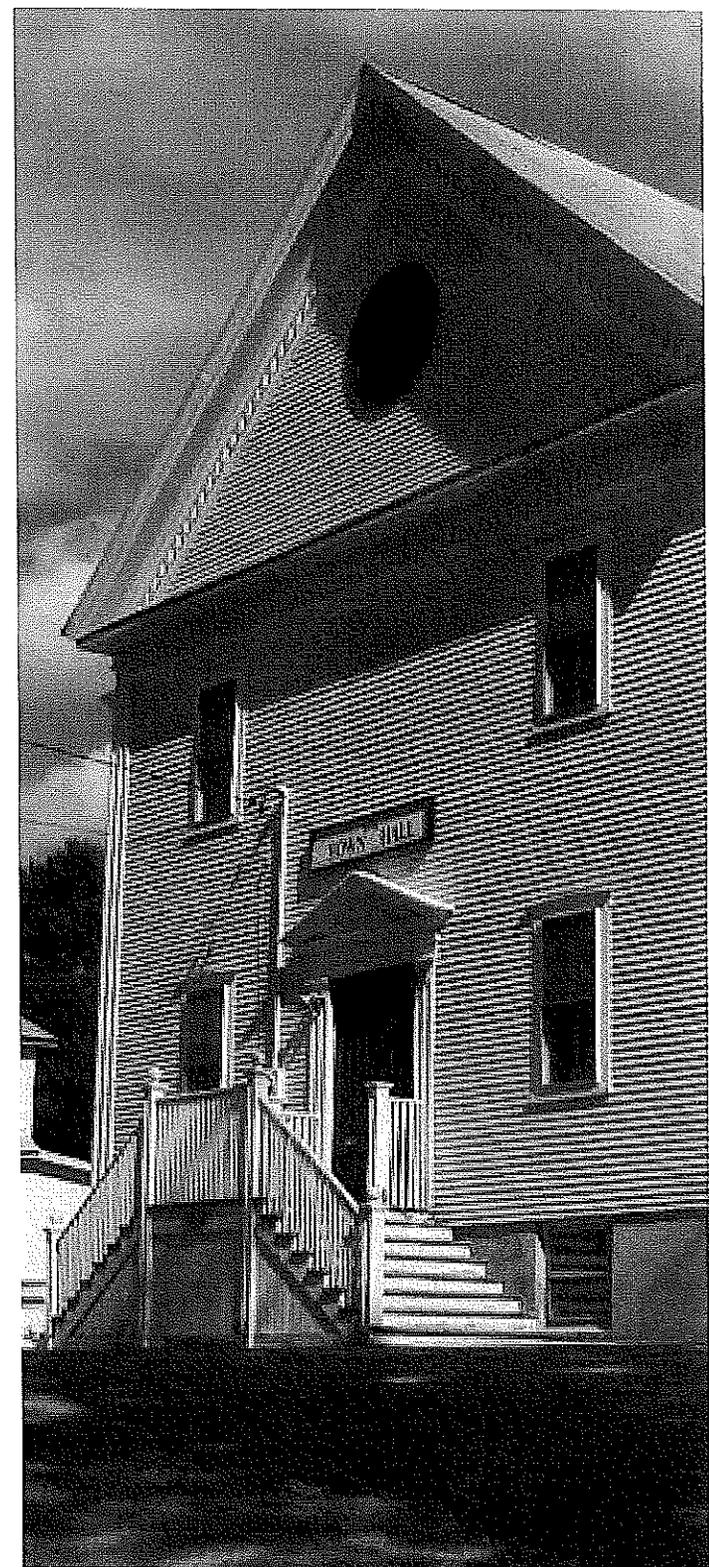
### 2.1.03 **AUTHORITY**

The Warren Town Plan was prepared and adopted in accordance with Title 24 of the Vermont Statutes Annotated, Chapter 117, The Vermont Municipal and Regional Planning Act. This 2019 Town Plan was adopted by the Warren Selectboard on [DATE].

### 2.1.04 **PUBLIC PARTICIPATION**

The Town of Warren has long benefited from the active involvement of town residents in the planning process. Spirited debate is a predictable part of resolving important community issues. This town plan builds upon that history in an attempt to better focus future discussions concerning major decisions. During the writing of this plan in 2017, more than 250 people responded to a community survey, the results of which guided this plan revision (see Appendix 2).

The Town of Warren actively seeks public involvement at all levels of the planning process. The use of surveys and questionnaires, public forums and greater coordination between interest groups and town officials and boards will serve to increase the level of citizen participation in local decision making. Further, the ongoing coordination with local citizen groups, businesses and regional agencies will ensure that Warren's planning program benefits from all of the other opportunities for community involvement that exist in the town and valley.





## 2.2 COMPATIBILITY AND CONSISTENCY

### 2.2.01 WITH STATE LAW

The 2019 Warren Town Plan is consistent with the state planning goals as demonstrated in [Section 1.2](#) and includes the 12 elements required under 24 V.S.A. § 4382:

- Statement of objectives, policies and programs ([see 4 objectives and strategies on page 82](#))
- Land use plan ([see 3.7 Land Use and Development on page 68](#))
- Transportation plan ([see 3.5.01 Transportation on page 52](#))
- Utility and facility plan ([see 3.5 Community Infrastructure on page 52 and see 3.6 Community Services on page 61](#))
- Statement of policies on resource protection ([see 4.2.01 Resource Protection on page 82](#))
- Educational facilities plan ([see 3.6.06 Education on page 67](#))
- Implementation program ([see 4.3 Strategies on page 85](#))
- Compatibility statement ([see 2.2 Compatibility and Consistency on page 9](#))
- Energy plan ([see 3.3.04 Energy on page 38, see 3.4.06 Renewable Energy Resources on page 50, and see 3.5.04 Energy on page 59](#))
- Housing element ([see 3.3.02 Housing on page 29](#))
- Economic development element ([see 3.3.03 Economy on page 35](#))
- Flood resilience plan ([see 3.1.06 Water Resources on page 16](#))

### 2.2.02 WITH THE REGION

Warren actively participates in the Central Vermont Regional Planning Commission and the Central Vermont Transportation Advisory Committee. Through that involvement, potential conflicts with neighboring towns outside of the Mad River Valley can be addressed. The policies of this town plan are compatible and consistent with the policies of the Central Vermont Regional Plan and the Central Vermont Transportation Plan.

### 2.2.03 WITH THE MAD RIVER VALLEY

The Town of Warren has been meeting regularly with the neighboring towns of Fayston and Waitsfield to discuss issues of mutual concern since the early 1980s.





This relationship was formalized by the creation of the Mad River Valley Planning District (MRVPD) in 1985. This cooperative effort has resulted in numerous studies and programs over the years designed to address the following valley-wide issues:

- Affordable housing
- Economic development
- Energy
- Flood resilience
- Growth management associated with ski area development
- Highway improvements
- Public transit
- Recreation
- River conservation
- Rural resource and historic preservation
- Trails and greenways development
- Wastewater treatment and disposal

This cooperative relationship allows Warren to coordinate its local planning program with those of neighboring towns through the MRVPD, ensuring plan compatibility with Fayston and Waitsfield. Going forward, Warren should explore the feasibility and potential cost savings of partnering with Waitsfield and Fayston to share and more efficiently utilize resources where feasible.

#### 2.2.04 **WITH NEIGHBORING TOWNS**

While the success of the town's cooperation with adjacent valley towns is well documented, communication and cooperation with other neighboring towns has been less extensive. This is due largely to the geographic barriers separating Warren from the neighboring towns of Northfield and Roxbury (Northfield Range), Granville (Granville Gulf) and Lincoln (Green Mountain Range). Despite these geographic constraints,

Warren recognizes that the operation of a major resort in the Mad River Valley does present the potential for impacting adjacent towns in such areas as housing, transportation and land use. The policies set forth in this plan have attempted to ensure compatibility with the plans of neighboring towns by establishing land use and transportation policies that direct growth and traffic away from neighboring towns, and support Route 100 north as the principal arterial highway in the town.





# about warren

## 3.1 NATURAL SETTING

### 3.1.01 CLIMATE

Warren's climate is highly changeable with wide-ranging temperatures (both daily and annually) and great differences between the same seasons from year-to-year. A large number of low-pressure storm systems and fronts pass over or near Vermont and the Green Mountains have a strong effect on precipitation. Warren experiences slightly lower average winter temperatures and greater precipitation than other parts of Vermont because it is located on the eastern side of some of the state's highest mountains.

July is usually the warmest month in Warren with an average high temperature around 80°F and January is usually the coldest with an average low temperature around 5°F. Warren receives approximately 49 inches of precipitation and 116 inches of snowfall annually. The growing season has historically been around 120 days long with the last frost likely during the last two weeks of May and the first frost likely during the last two weeks of September – again with variation based on elevation. Temperatures routinely drop to 20 and 30 degrees below zero, and winters with more than 8,000 heating degree days are common.

Globally, 16 out of the 17 warmest years in the modern meteorological record have occurred since 2001. Since 1970, the average annual temperature in the Northeast has increased by 2°F, with winter average temperatures rising by 4°F. The average annual temperature in Vermont is projected to increase another 3-4°F by 2050 and anywhere from 5-10°F by the end of this century.

### 3.1.02 AIR QUALITY

Air quality in Warren is high, as it is in most of Vermont. Warren is within a "clean air" region according to state and federal standards. Air quality concerns are limited and

Figure 1. Climate Change

Climate change in Warren is resulting in:

- More days each year with temperatures above 90°F.
- A longer growing season.
- Spread of invasive plants and insects such as ticks that can carry disease or harm native species.
- More storms with heavy precipitation.
- Less snow and more rain in the winter.
- More mid-winter thaws.
- Reduced snow pack and ice on ponds and rivers.
- Earlier spring snow melt and break-up of ice.

Mountain towns like Warren that are dependent on the ski industry are already experiencing the economic impacts of climate change. Reduced snowfall combined with more frequent winter thaws means that natural snowfall no longer provides consistent snow cover for skiing without the addition of artificial snow. The Mad River Planning District prepares an [annual data report](#) that tracks skier visits and natural snowfall.

Ski areas across the country have also joined together to adopt an environmental charter known as [Sustainable Slopes](#) and collectively address the long-term challenges posed by climate change – a program that Sugarbush Resort participates in.





localized. They are related to point-source emissions such as idling vehicles at high-traffic locations, improperly functioning heating systems, dust from agricultural practices or construction sites, or the diesel engines associated with Sugarbush’s snow-making system (which are subject to state air quality permits). Air pollution from distant, out-of-state sources is a more immediate concern and poses a serious threat to Warren’s fragile, high elevation ecosystems.

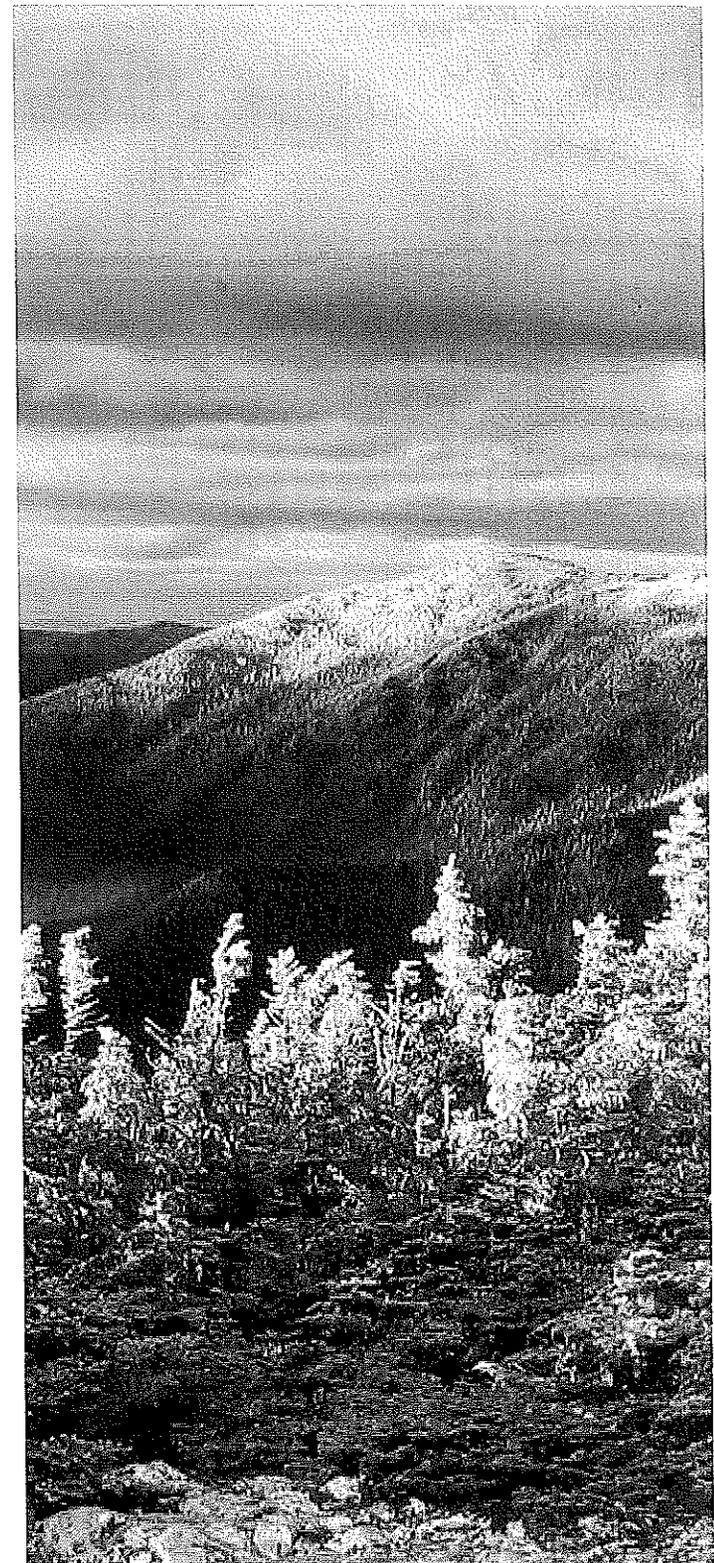
3.1.03 **TERRAIN AND ELEVATION**

Warren’s boundaries encompass the upper watershed of the Mad River. The town’s eastern and western borders are defined by the parallel ranges of the Northfield and Green Mountains (see [Figure 1](#)). The two ranges come together to form Granville Gulf to the south. Diverging ridges of the Green Mountains create a series of bowls drained by tributaries to the Mad River (Austin, Bradley, Clay, Lincoln and Stetson Brooks) to the west, and a plateau lies roughly between 1,200 and 1,500 feet elevation in East Warren. The Mad River plunges through the center of the town, where it flows north into a widening valley.

Historically, the town’s settlement patterns have been influenced by natural land forms and the distribution of natural features. East Warren’s broad plateau was among the town’s earliest settled areas and continues to be characterized by farming and residential development. Warren Village was located to take advantage of the hydro power of the Mad River and remains the center of the community. The high elevations and steep slopes of the Green Mountains support the town’s current primary economic base, alpine sports and related tourism. They also contain some of the largest tracts of undeveloped forest and public land in the Mad River Valley.

3.1.04 **GEOLOGY**

Warren’s geology has produced a varied landscape comprised of broad plateaus, steep hillsides, intermittent knolls and defined ridgelines. These features have shaped past settlement patterns and continue to be an important development consideration.



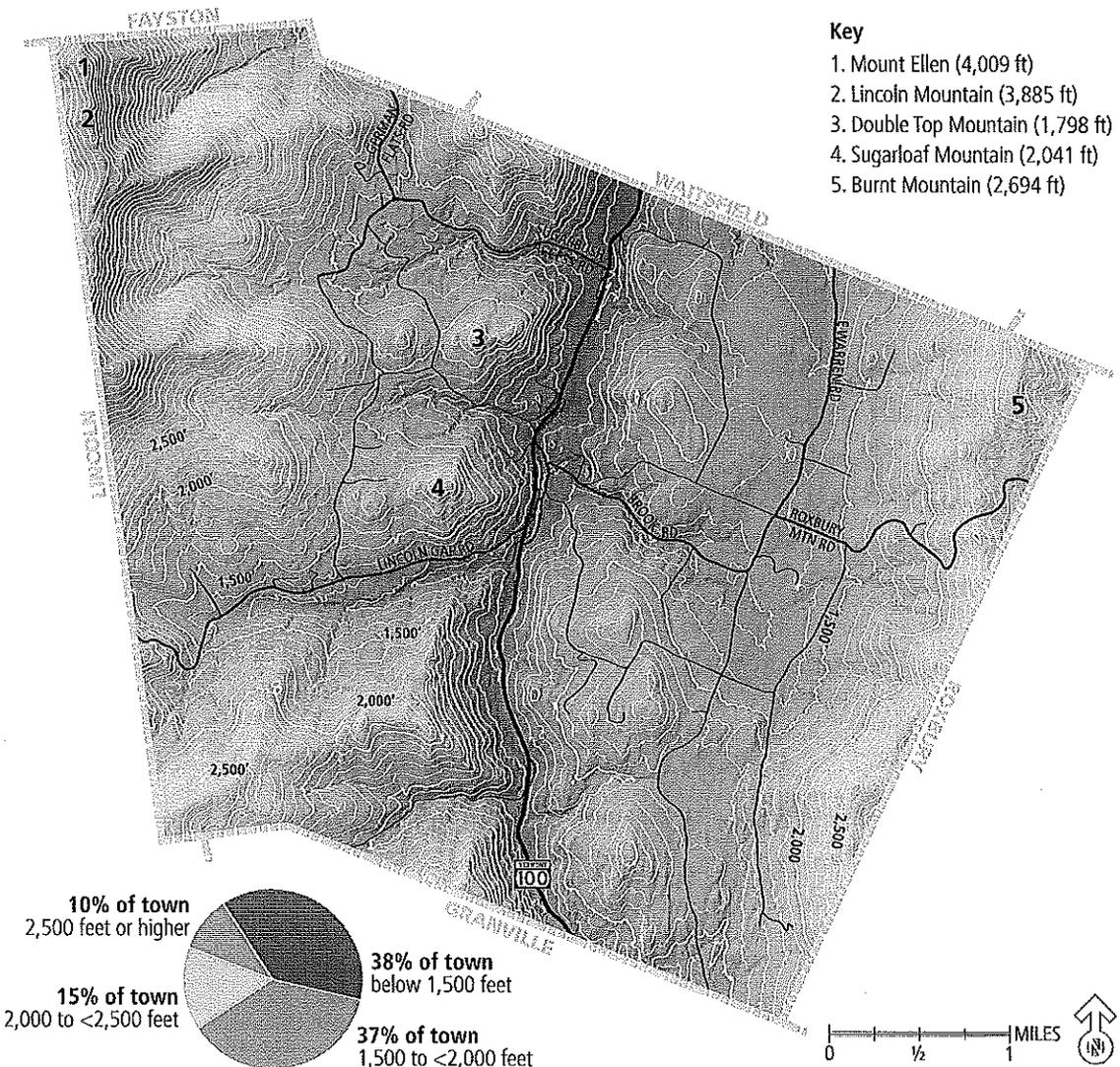


The Green Mountains formed millions of years ago and have eroded to a fraction of their original height. The Green Mountains and the Northfield Range have eroded steeply on their western slopes and gently to the east.

The advance and retreat of glaciers during the last Ice Age significantly shaped Warren's present-day landscape. The ice scraped and rounded the Green Mountains, widening the valleys and carving gaps through the mountains. The melting glacier left rocks and gravel covering the ground. Gravel can be found along terraces at higher elevations, along the receding glaciers' edges and in river deltas and lake beaches in the valley at about the 900-foot contour.

The valley floors contain sediments, including sand, clay and gravel, deposited under glacial lakes 10,000 or more years ago. As the glaciers melted, a large lake formed that extended up into what today are the Winooski and Mad River valleys. Along the shoreline beaches and deltas formed.

Figure 2. Elevation Map



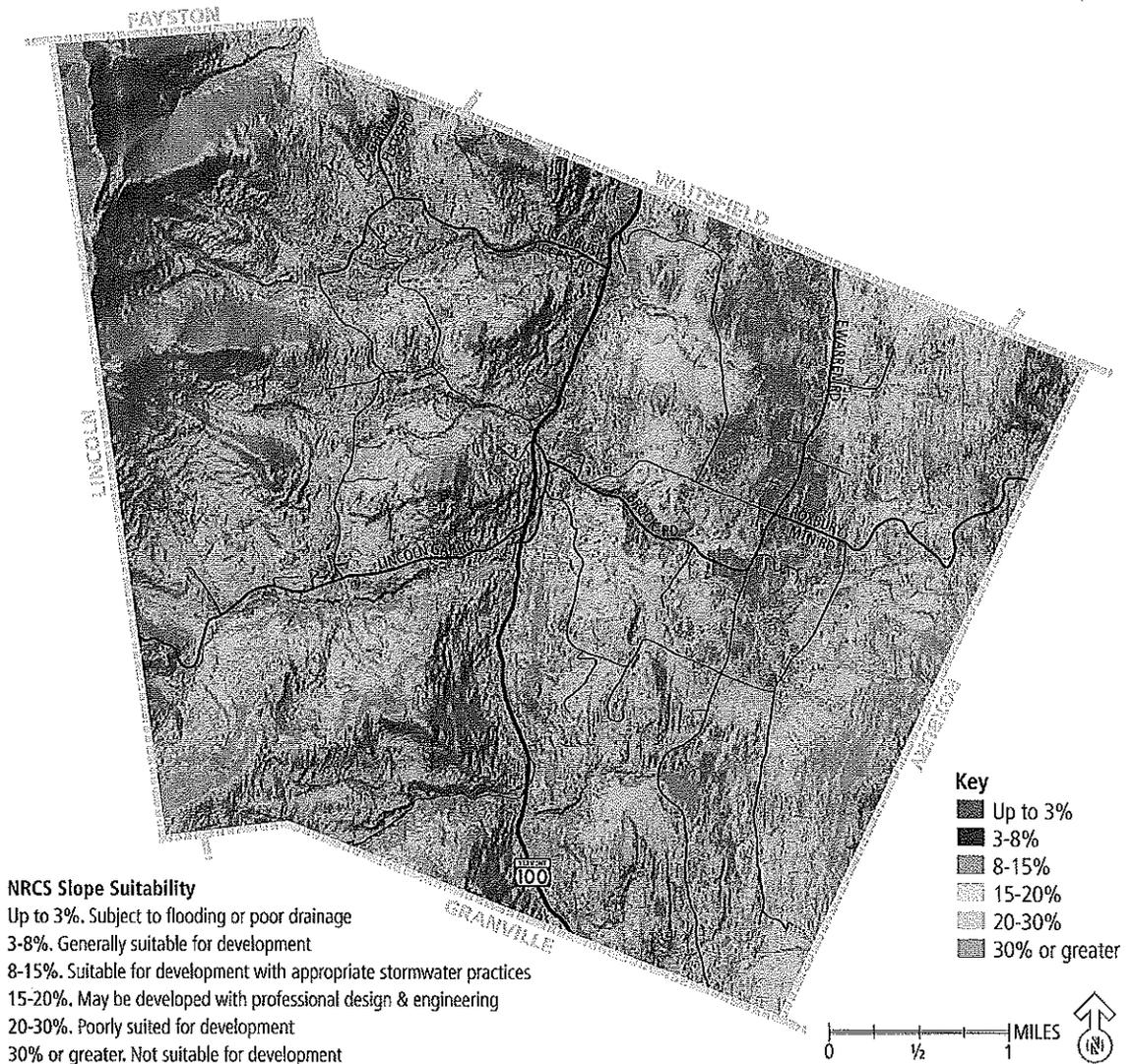


3.1.05 **SOILS**

Soils found in Warren can generally be divided into gravelly soils deposited on terraces and old lake bottoms, and soils that formed in glacial till in the mountains. Because of their importance to our ability to grow crops, develop land, and obtain raw materials, soils are better understood and documented than many other components of our natural environment. The USDA Natural Resource Conservation Service (NRCS) maintains county soil surveys that map and inventory soils. The NRCS reports describe the characteristics of each soil type and its suitability for various uses. [Section 3.4.01](#) includes further discussion of soil productivity for farming and forestry, and [Section 3.4.02](#) includes a further discussion of mineral resources.

Soil conditions play a critical role in determining the location and intensity of development in Warren. Soils must be suitable for supporting roads and structures. Only limited areas of Warren are served by sewer systems, so soils must be suitable for on-site septic systems to support

Figure 3. Slope Map

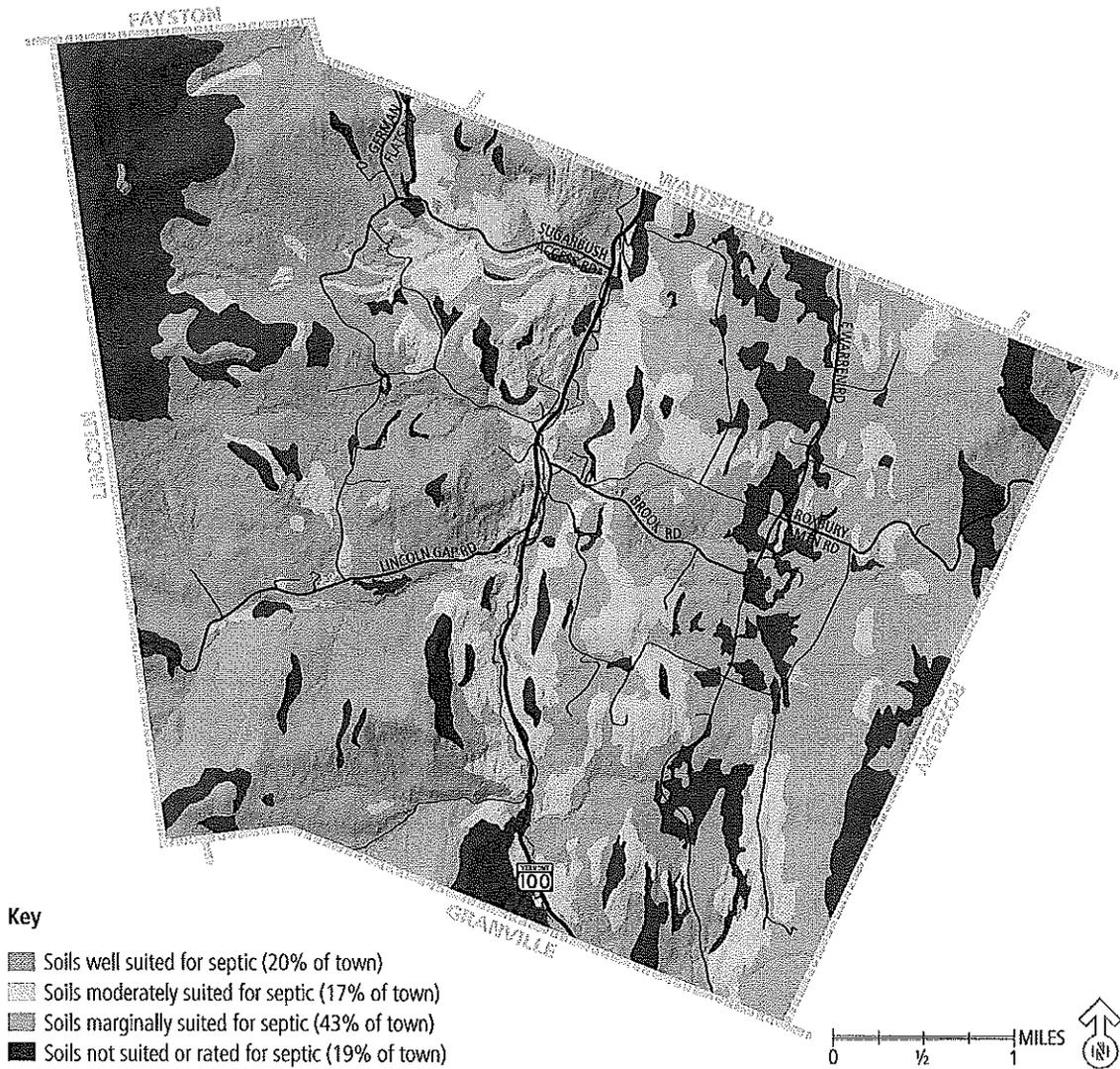




development in most of town. In many areas of town, properties being developed that will not be served by sewers will need to build septic systems that may be more technologically advanced, more expensive, and require more land than basic conventional in-ground systems.

State wastewater rules assert a strong influence over development. The changes to the rules in 2007 eliminated the exemption from permitting for lots larger than 10 acres, allowed for more technologically advanced septic systems, and created incentives for community wastewater systems. Community systems – private, in-ground septic systems that would serve two or more properties – can promote more compact development patterns with buildings being clustered in order to share common infrastructure. They also allow developers to more efficiently use smaller pockets of good soils to provide wastewater treatment for multiple lots.

Figure 4. Septic Suitability Map



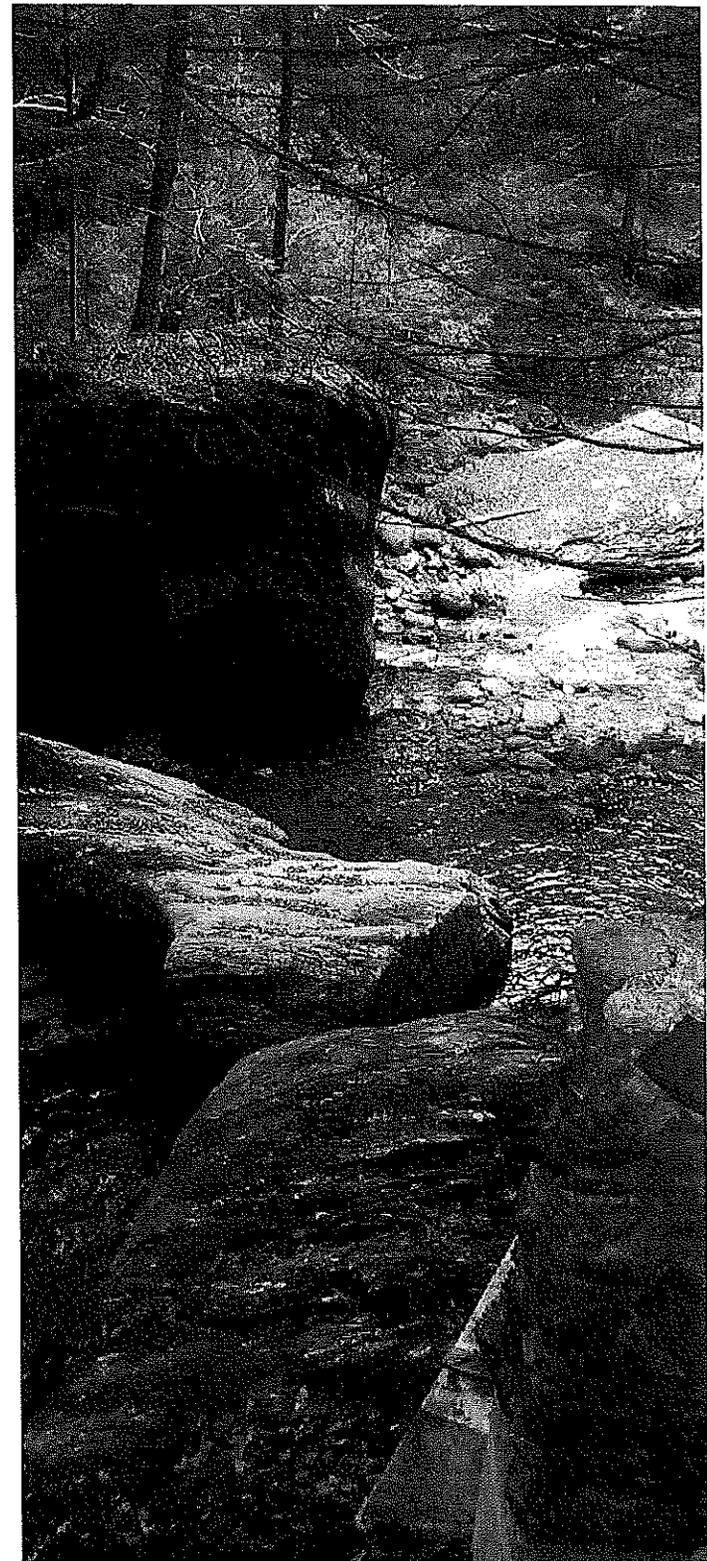


### 3.1.06 WATER RESOURCES

**Rivers and Streams.** The Mad River is a defining feature of the town's landscape and its tributaries contribute to the unique character of distinct neighborhoods. The outstanding ecological, recreational and scenic resources of the Mad River system are widely recognized and valued by residents and visitors.

The Mad River has been the focus of a comprehensive, broad-based, citizen initiated, watershed planning and protection effort for the last three decades. Milestones in that effort include:

- Implementation of the Mad River Watch program, which has monitored water quality in the Mad River and several tributaries every summer since 1986.
- Formation of the Friends of the Mad River in 1990, an organization that has actively promoted a program of river advocacy, education and protection.
- Preparation of The Best River Ever: a conservation plan to protect and restore Vermont's beautiful Mad River Watershed, completed in 1995. The plan addresses water quality issues related to wastewater disposal and non-point run-off, the maintenance of riparian vegetation, farm and forestry practices and their impact on the river, wildlife, recreation, and the cultural history of the river. It includes 112 specific recommendations, many of which have been implemented during the past 25 years. The plan remains a guide for protecting and improving water quality in the Mad River watershed.
- Publication of Caring for the River, Caring for the Land: A guide to living in the Mad River Valley as a compliment to The Best River Ever in 2002. This handbook contains many suggestions for ways to conserve natural resources in the Mad River Valley and should be used as a resource by Warren residents.
- Creation of Ridge to River in 2015, a 5-town coalition working toward clean water and flood resilience across the Mad River Valley. With leadership from Friends of the Mad River, the coalition has developed actions that individuals and the broad watershed community can take to slow down rainwater and snowmelt and help it sink into the ground before it runs off so quickly into streams.





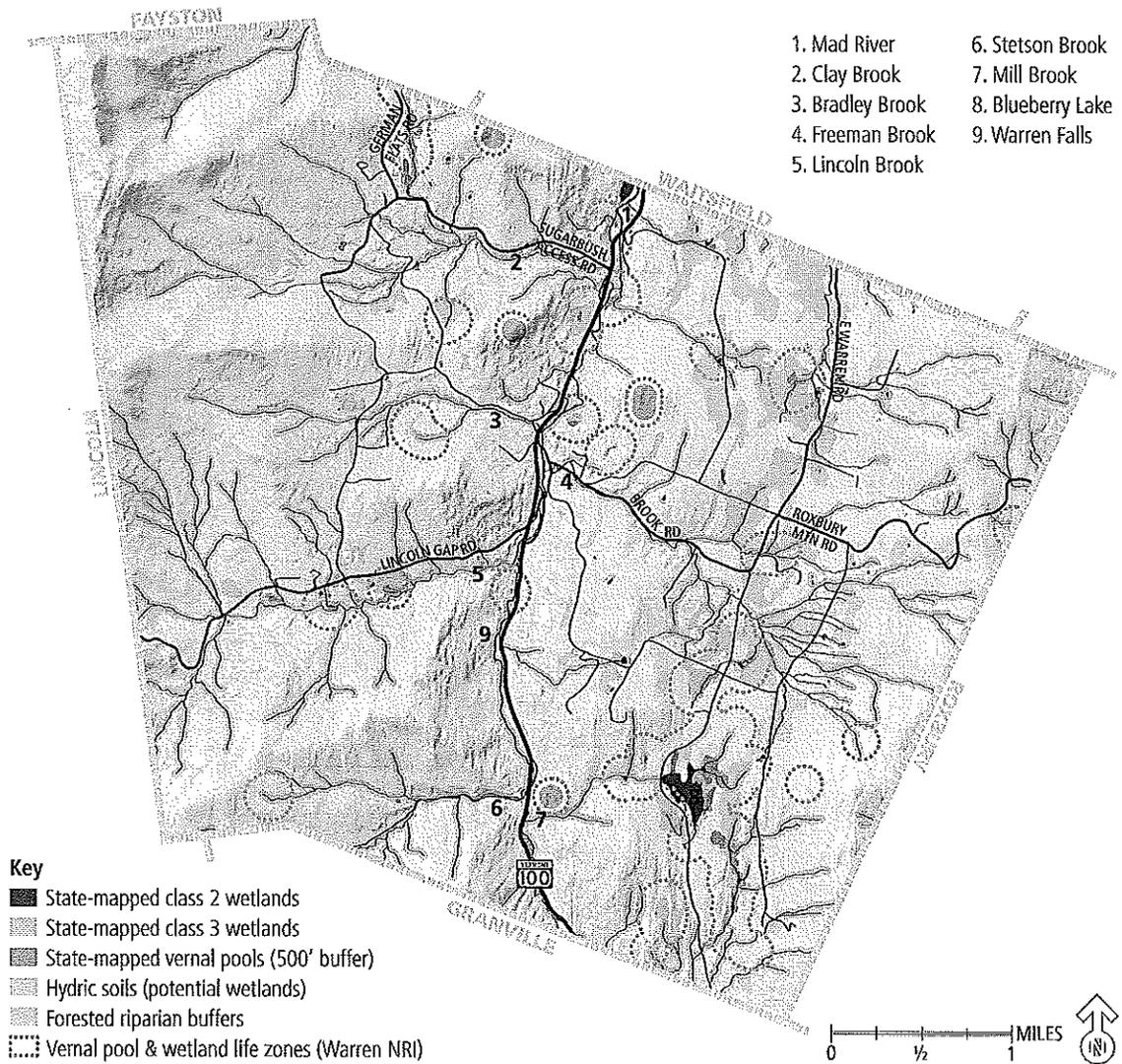
The following issues are critical to protecting and improving water quality in the Mad River and its tributaries:

**Pathogens.** Water quality monitoring sites within Warren have frequently exceeded state water quality standards for E.coli, an indicator of the extent to which untreated waste is finding its way into the river through inadequate septic or wastewater treatment systems. Among the most important means of maintaining water quality standards are the proper siting, installation and maintenance of septic systems and the control of agricultural runoff.

**Stormwater.** Stormwater run-off from impervious surfaces and erosion reduce water quality. Stormwater run-off picks up sediment, petro-chemicals, heavy metals and other pollutants from roads, roofs, parking areas and other surfaces. Proper erosion control during construction and ongoing stormwater management for all development that adds to the amount impervious surface in the watershed is critical to the health of the river.

**Riparian Vegetation.** Maintaining a vegetated buffer along all streams provides shade, stabilizes stream banks and provides

Figure 5. Water Resources Map





habitat for a variety of wildlife. Riparian vegetation captures, filters and absorbs sediment and pollutants in run-off. Retaining existing woody vegetation along streams, or allowing it to become re-established, is one of the simplest and most effective ways to protect and improve water quality.

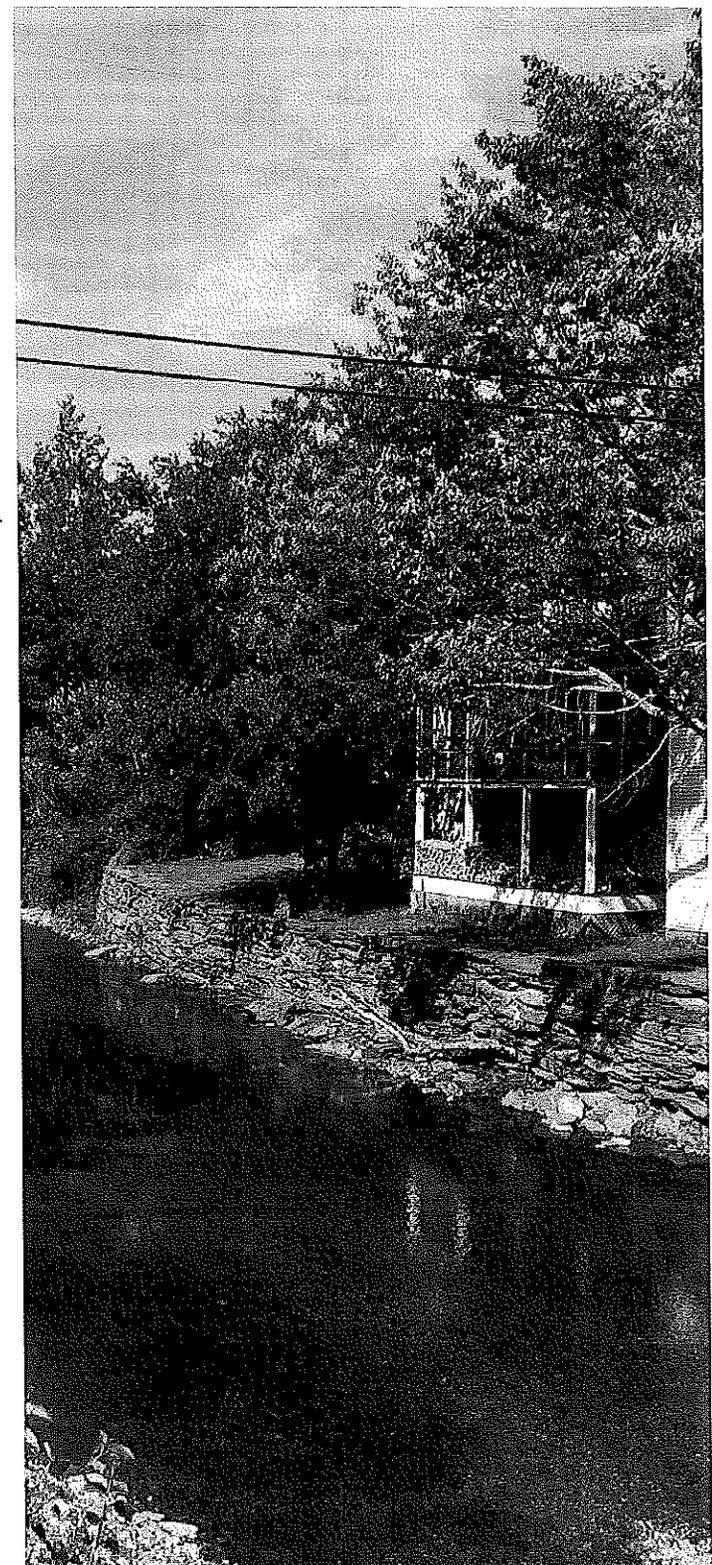
**Headwater Streams.** The quality and health of headwater streams is threatened by development at high elevations, on steep slopes and in areas with poor soils. Development, including extension of roads and utilities, in these fragile areas poses a direct threat to water quality.

**Water Quality Classification.** The Vermont Agency of Natural Resources classifies the Mad River and all its tributaries as Class B rivers and, as such, are suitable for bathing and recreation, irrigation, and agricultural uses. They provide good habitat for fish and have high aesthetic value. They are acceptable for public water supply with filtration and disinfection.

**Wetlands.** Wetlands provide important wildlife habitat and retain and filter large volumes of runoff. There are not expansive wetlands in Warren. The most significant wetland complex occurs on the upper reaches of Mill Brook. A large expanse of wetlands remains in the area around Blueberry Lake and there are numerous smaller wetlands scattered around town (see [Figure 5](#)).

Mapped wetlands are protected under both state regulations and Warren's land use and development regulations. According to the Vermont Agency of Natural Resources, there are approximately 187 acres of mapped Class 2 wetlands in Warren, but this information is primarily based on data collected in the 1970s and needs to be updated. Data from the USDA county soil survey suggests that around 2,007 acres of land have hydric (wet) soils. Such areas are also likely to be wetlands (see [Figure 5](#)).

**Floodplains and River Corridors.** The steep, upland character of the Mad River and its tributaries means that floodplains (areas subject to inundation) in Warren are relatively narrow, but the river corridors (areas subject to fluvial erosion) are relatively wide (see [Figure 6](#)). The community faces greater risk from fluvial erosion within river corridors, when flood-swollen streams erode their banks and cut new channels, than from





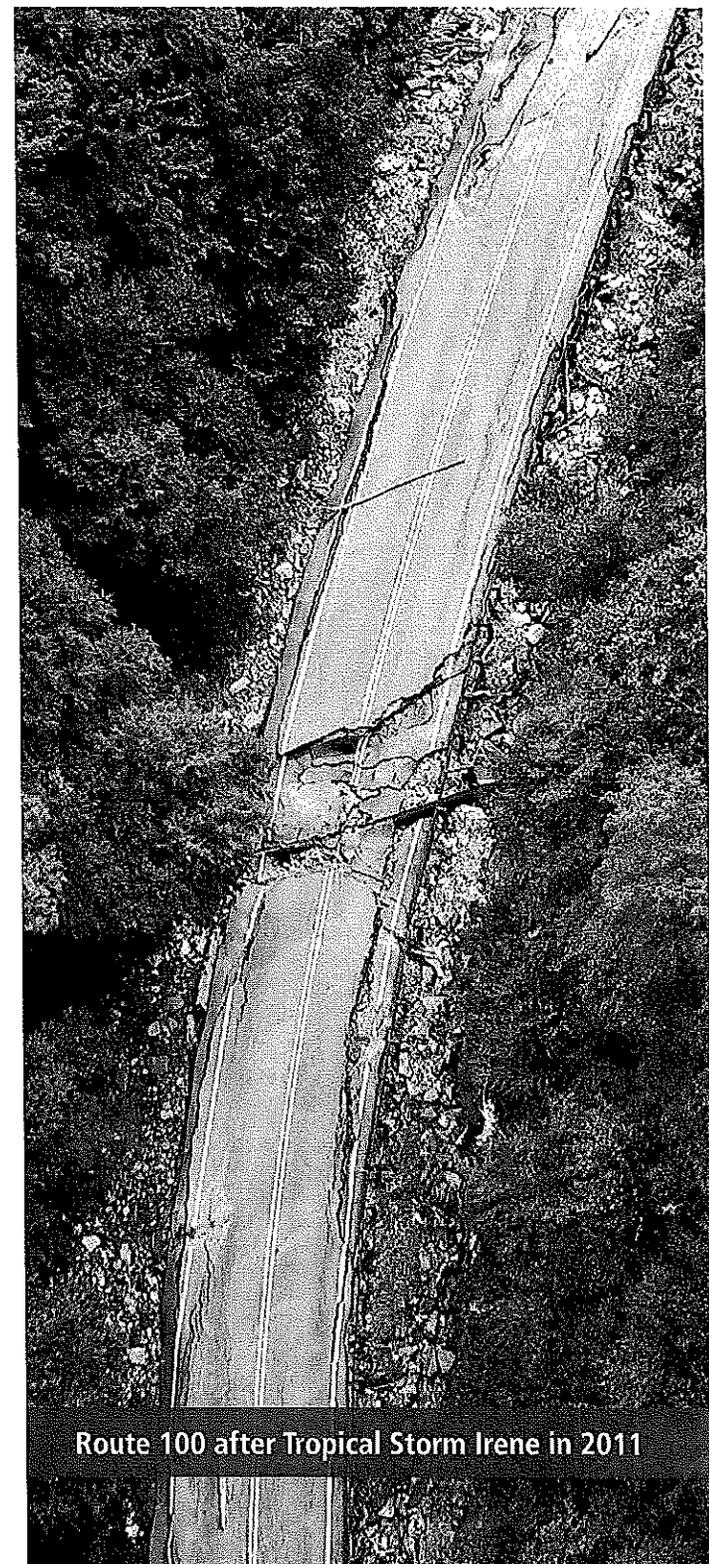
inundation, when waters rise and streams overflow their banks. Floodplains and river corridors are not suitable locations for development due to the:

- Hazards associated with periodic flooding or erosion;
- Harmful effects on channel capacity, water velocity and downstream properties resulting from filling and stream bank armoring; and
- Pollution when sewage disposal systems, fuel tanks, etc. are flooded and waste or pollutants are washed downstream.

Minor flooding and erosion associated with severe storms or rapid spring snowmelt have historically been and remain a regular occurrence. Major disasters have occurred periodically throughout the town's history. Climate change is affecting the intensity and frequency of storms severe enough to cause significant damage to property and infrastructure. The [Warren Local Hazard Mitigation Plan](#), as most recently adopted, is incorporated into this plan by reference and provides more information about flood and erosion hazards in town.

Warren participates in the National Flood Insurance Program (NFIP) and implements a Flood Hazard Overlay District that conforms to state and federal requirements. The regulations are intended to protect life and property and to allow property owners to obtain flood insurance and mortgages for property within the floodplain. The regulations impose building design standards to minimize property damage from inundation flooding, and prohibit new construction and placing fill within floodways (where flowing water is anticipated during floods).

The NFIP does not apply to land subject to fluvial erosion, however, which is the greater hazard associated with flooding in Warren. The Vermont Agency of Natural Resources' River Management Program first mapped fluvial erosion hazard (FEH) areas and more recently river corridors (which includes the FEH area and a buffer) in Warren. The town adopted a fluvial erosion hazard overlay district in 2013, which restricts development within the original mapped FEH area.



Route 100 after Tropical Storm Irene in 2011



### 3.1.07 LAND COVER

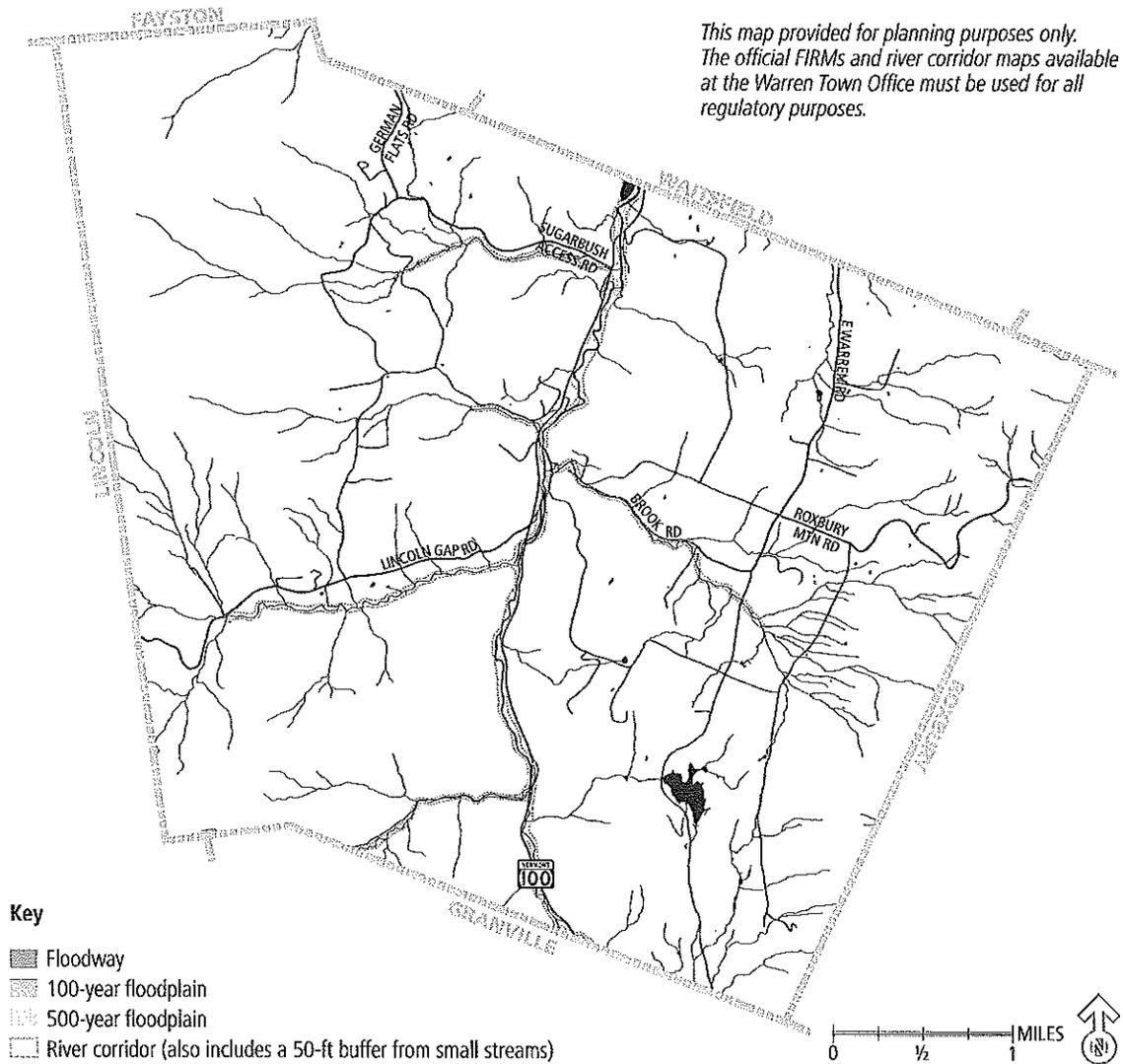
Approximately 22,000 acres or 85% of the town's land area is forested. As of 2016, public, conserved or actively managed woodlands included (see Figure 20):

- 7,260 acres of land within the Green Mountain National Forest;
- 184 acres of town forest;
- 1,908 acres of privately-owned woodlands of which 737 acres is under forest management (current use program); and
- 6,775 acres of developed property under forest management.

All of the natural resources discussed in this plan are dependent upon the continued maintenance of relatively large unfragmented blocks of forestland (see Figure 7). In addition to economic and recreational benefits, forest lands provide multiple ecological benefits such as:

- Carbon storage.
- Soil preservation.
- Flood attenuation.
- Nutrient cycling.
- Water and air purification.
- Wildlife habitat.

Figure 6. Flood and Erosion Hazard Areas Map





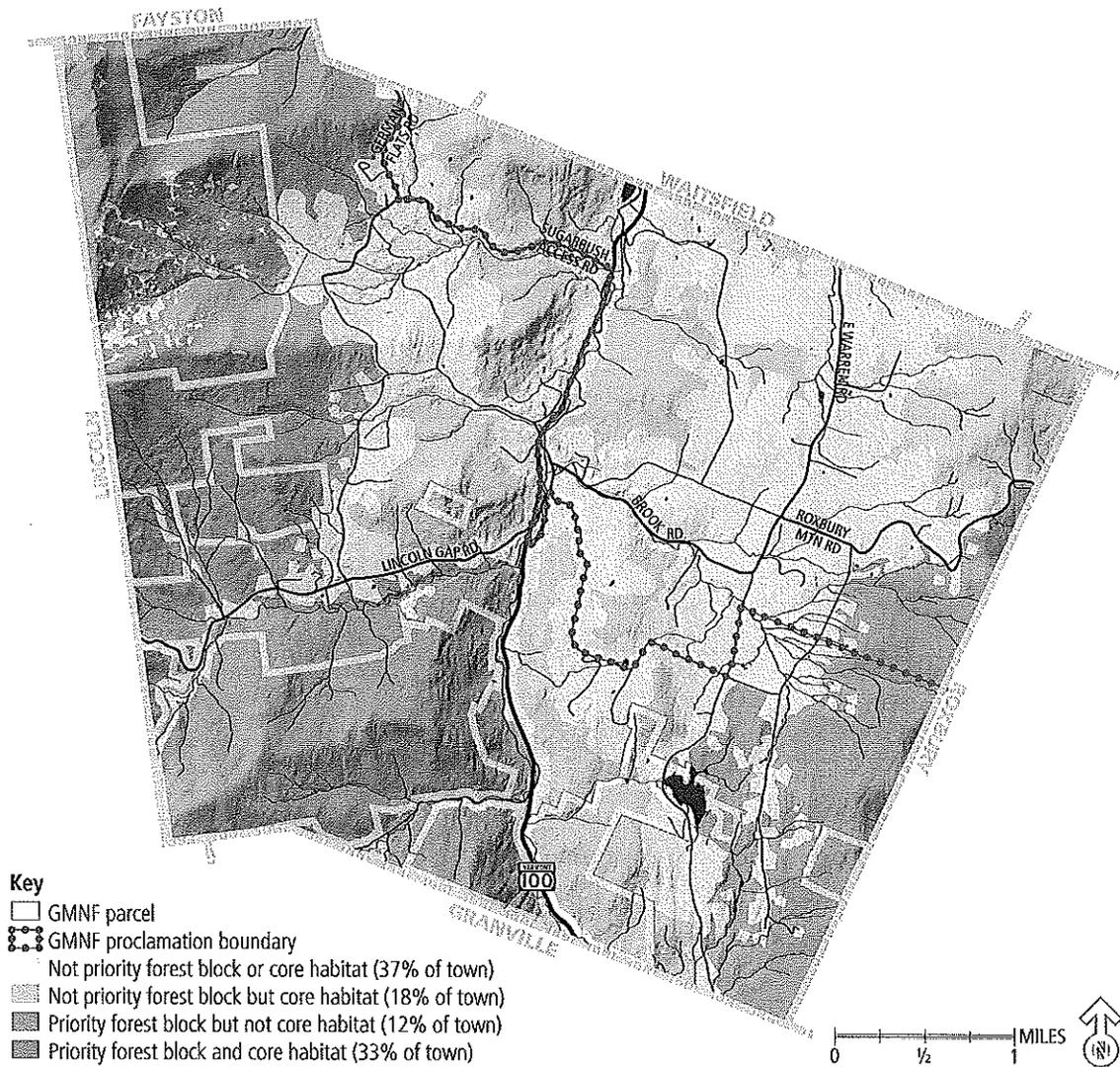
3.1.08 **WILDLIFE AND FISHERIES**

Warren’s 2008 Natural Heritage Inventory and Assessment identifies the general location and ecological function of several types of habitat, as well as the importance of large tracts of unfragmented forest habitat and connections and is adopted into this plan by reference. Subsequent studies have provided additional information about wildlife habitat and travel corridors in Warren:

- [2011 Ecological Mapping and Build-Out Analyses in the Mad River Valley](#)
- [2014 Wildlife Corridor Field Analysis](#)
- [2016 Warren Corridor Conservation Area: Ecological Inventory & Assessment](#)
- [2017 Warren Corridor Conservation Area: Wildlife Movement Patterns and Use Recommendations](#)

The Warren Natural Heritage Inventory and Assessment and its follow-up studies provide more accurate data than what is available from state-level mapping and must be consulted for planning and regulatory purposes.

Figure 7. Forest Blocks and Core Habitat Map



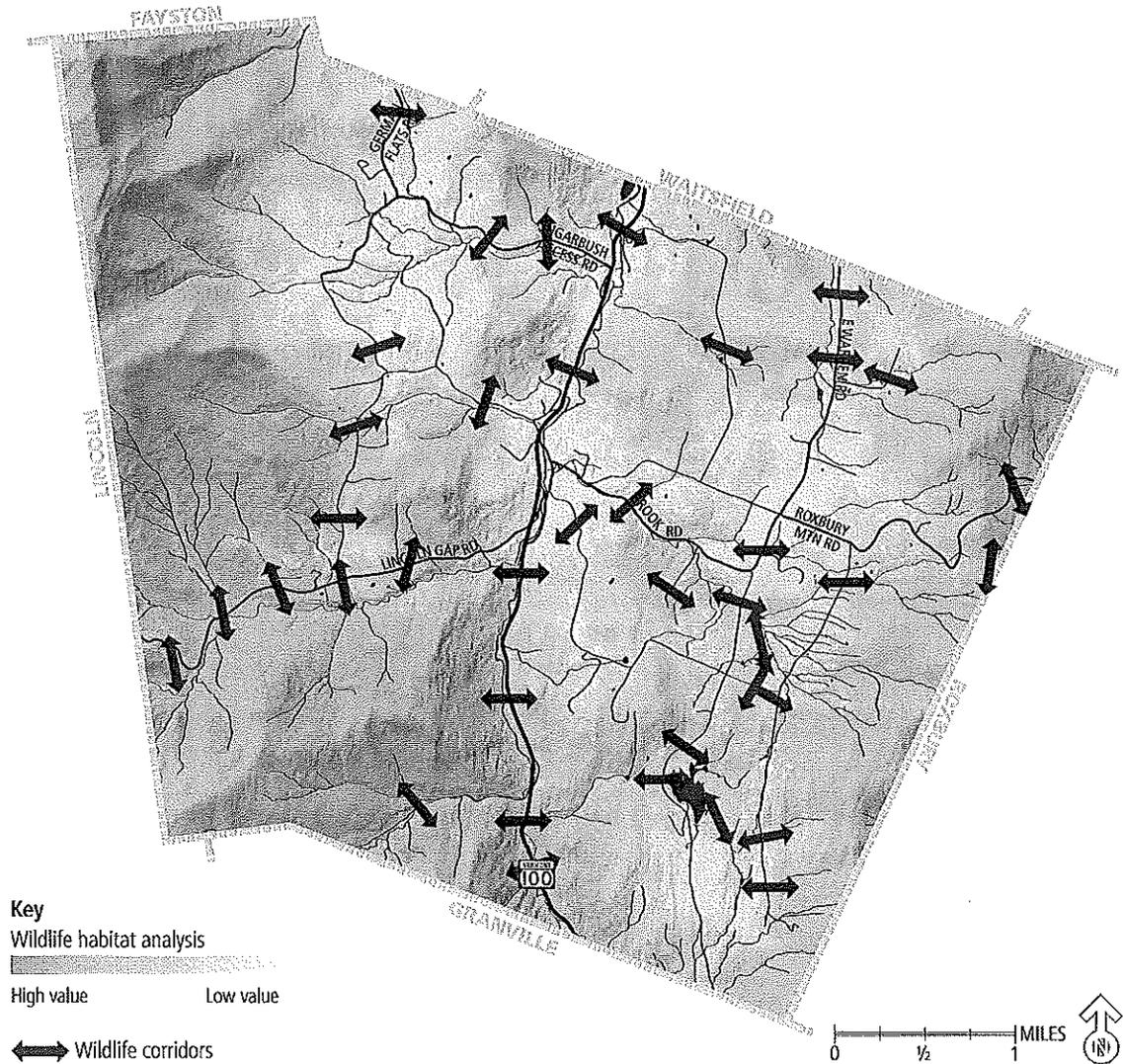


**Deer Winter Habitat.** Deer winter habitat receives special protection under state regulations. Deer wintering areas are generally found on south or west facing slopes, typically below elevations of 2,000 feet, where coniferous forests predominate (see [Figure 9](#)). The state originally mapped deer wintering areas in the 1970s and despite periodic updates, the accuracy of their mapping remains a concern. Warren’s 2008 Natural Resource Inventory includes more recent mapping of likely and potential deer wintering areas.

**Mast Stands.** When trees that produce fruits or nuts (mast) are concentrated into a stand, they provide a critical food supply for a variety of wildlife (see [Figure 10](#)). Mast stands that are undisturbed by human activity are of particular importance to local bear populations and receive special protection under state regulations.

**Riparian Habitat.** Riparian vegetation is important for maintaining water quality and for providing habitat for many amphibians, birds and mammals. There are more than 3,000

Figure 8. Wildlife Habitat and Travel Corridors Map





acres of forested riparian habitat in Warren (see [Figure 5](#)). Town regulations currently require that a naturally vegetated 50-foot buffer be maintained and requires additional review of any development within 100 feet of surface waters.

**Fisheries.** The Mad River system is a popular trout fishery, largely due to the state’s trout stocking program. While brook and rainbow trout are stocked annually, natural regeneration of some brook trout, and to a lesser degree brown and rainbow trout, does occur. The Best River Ever includes a series of recommendations for improving the health and well-being of the Mad River and its tributaries (see [Section 3.1.06](#)).

**High Elevation Bird Habitat.** Forested areas above elevations of 2,500 feet receive special protection under state regulations as they are fragile environments that provide habitat for the Bicknell’s Thrush and other songbirds (see [Figure 2](#)). Typically development or other disturbance, including forestry, will require the guidance of the forest service or a professional biologist

Figure 9: Deer Wintering Areas Map



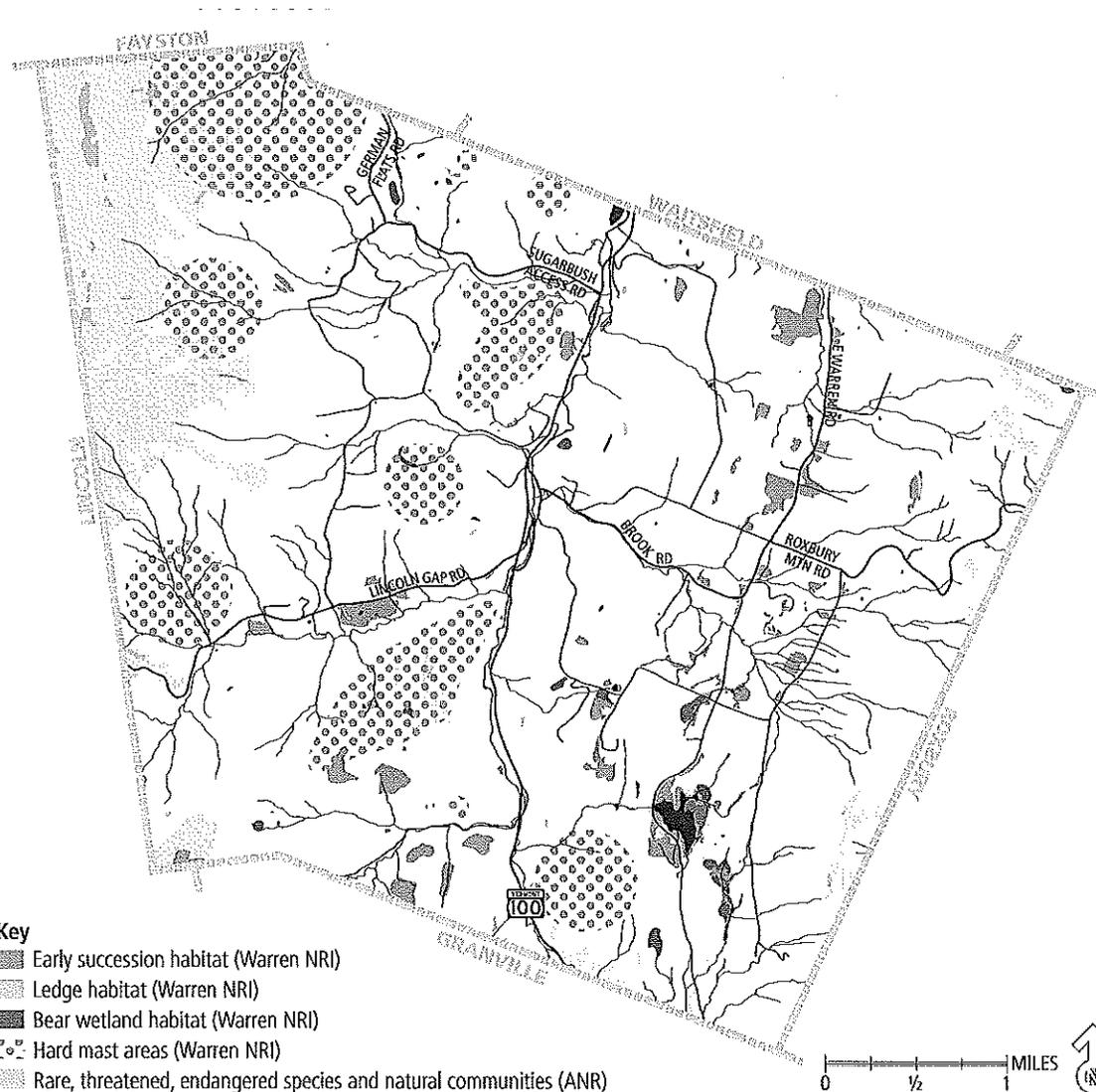


to avoid adverse impacts to high elevation bird habitat.

**Rare, Threatened and Endangered Species Habitat.** The Vermont Non-Game and Natural Areas Program maintains an inventory of known locations of rare, threatened and endangered plant and animal species, and designates significant natural communities (see Figure 10). These areas receive special protection under state regulation. The known resources are further discussed in Warren’s Natural Heritage Inventory and Assessment. It is likely that most of the rare, threatened and endangered species and habitats in Warren have not been identified.

**Ledge, Talus & Cliff Habitats.** A number of bird species use these craggy features as nesting sites and species such as bobcat and porcupine use them as denning sites (see Figure 10). Access to these areas on public lands are often restricted as these species are sensitive to any human activity or disturbance during nesting season.

Figure 10. Special Habitat Features Map

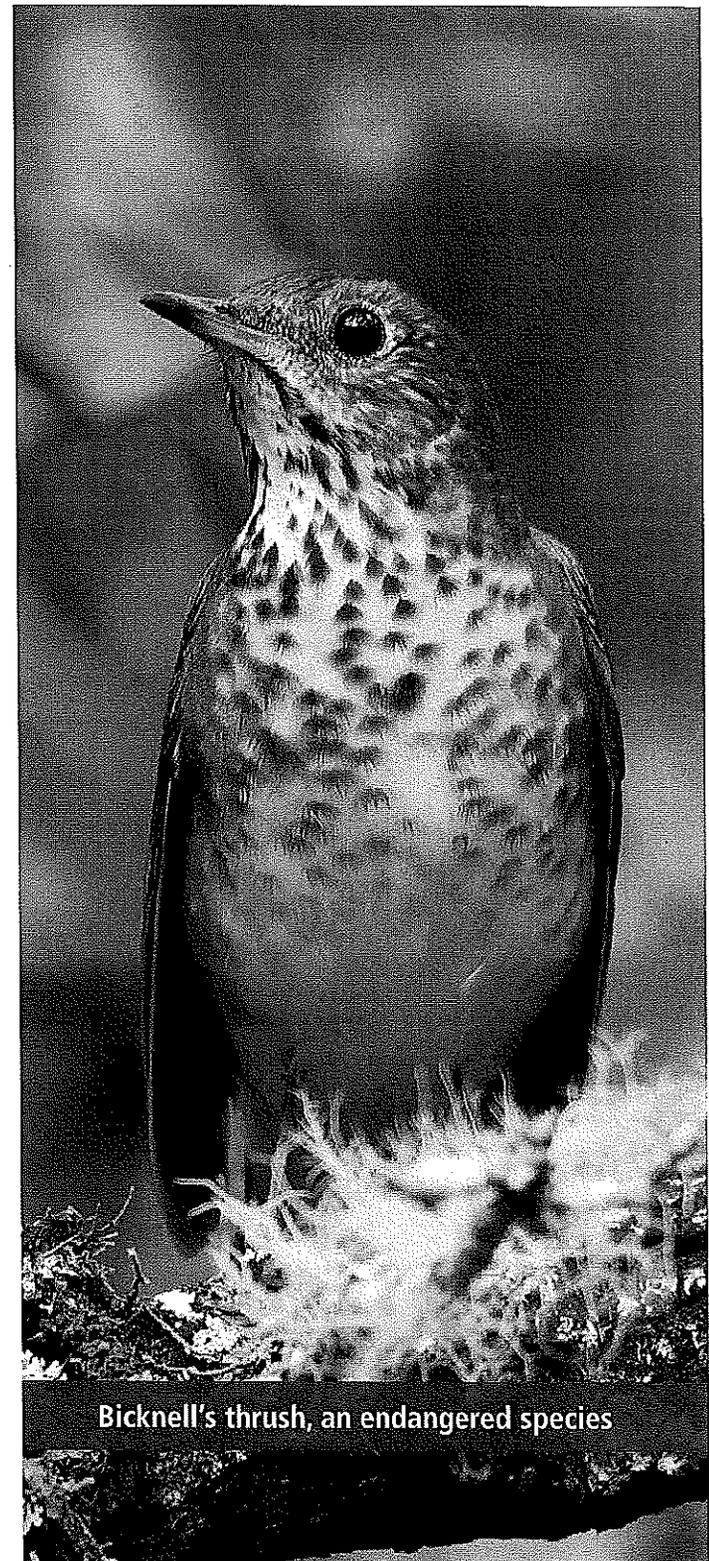




**Wildlife Travel Corridors.** Warren’s Natural Heritage Inventory and Assessment identifies nearly 40 potential wildlife corridors in town including(see [Figure 8](#)):

- General corridors likely used by a range of species;
- Potential travel corridors for bear and deer; and
- Travel corridors for amphibians moving from upland to wetland habitats.

It also offers recommendations for protecting wildlife corridors in Warren, including considering these resources when setting priorities for land conservation and maintaining or enhancing riparian buffers to facilitate wildlife travel between habitats.



**Bicknell's thrush, an endangered species**



## 3.2 HISTORIC CONTEXT

### 3.2.01 PRE-HISTORY

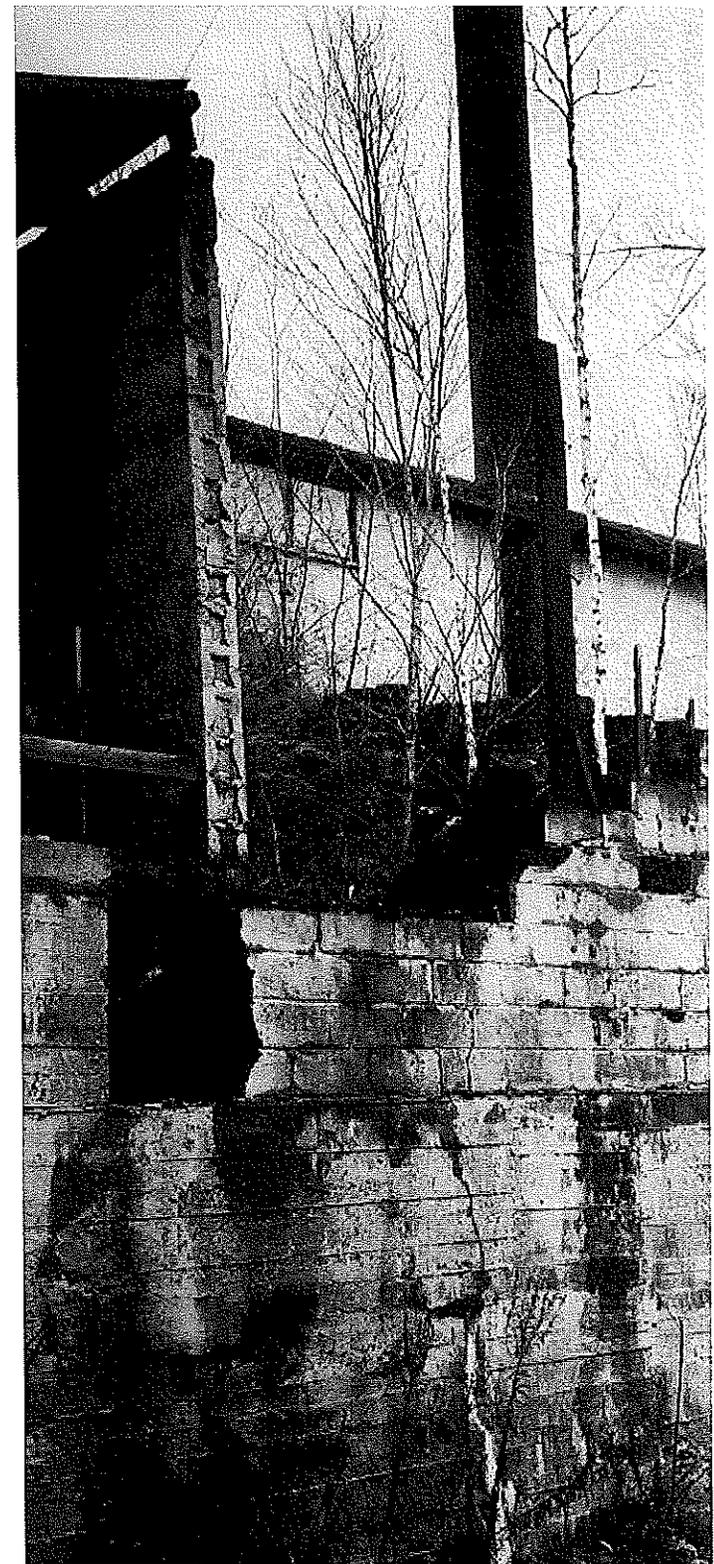
Relatively little is known about the people who lived in and traveled through the Mad River Valley prior to European settlement. It is thought that Paleo-Indian groups traversed widely through what is now Vermont for several thousand years and one of their suspected paths was through the valley. Artifacts and other evidence of this lengthy period of human activity are periodically found in Warren and neighboring communities either by happenstance or as a result of archaeological investigation (see [Section 3.4.03](#)).

### 3.2.02 1780 TO 1850

On November 9, 1780, the Honorable John Thorp and 67 associates received a grant for a parcel of land in Vermont, but the charter was not issued until October 20, 1789. A condition of the charter was that a family settle, build a home, and clear and cultivate five acres on each share of land within a specified time or the share would revert to the state to be re-granted. The town was named for Dr. Joseph Warren, president pro temp of the Provincial Congress, Major General of the militia and the first American killed in conflict at Bunker Hill. Warren's boundaries were adjusted several times by the state legislature as the original grant was smaller than most towns.

The early settlers were largely self-sufficient. The land was cleared, making small farms, crops were planted and homes built. Families grew their own food, kept cows, sheep and poultry, and supplemented that by hunting, fishing and gathering. They made most of their own cloth, candles and tools. The first small hamlet grew in the eastern part of town where the best farmland was and the larger farms developed. This was the "center" of town into the 1820s.

By the 1820s, settlement was growing along the Mad River and on land to the west. Dams were built to power mills, and homes and commercial establishments built up around them. In the span of twenty years, the Village of Warren developed and





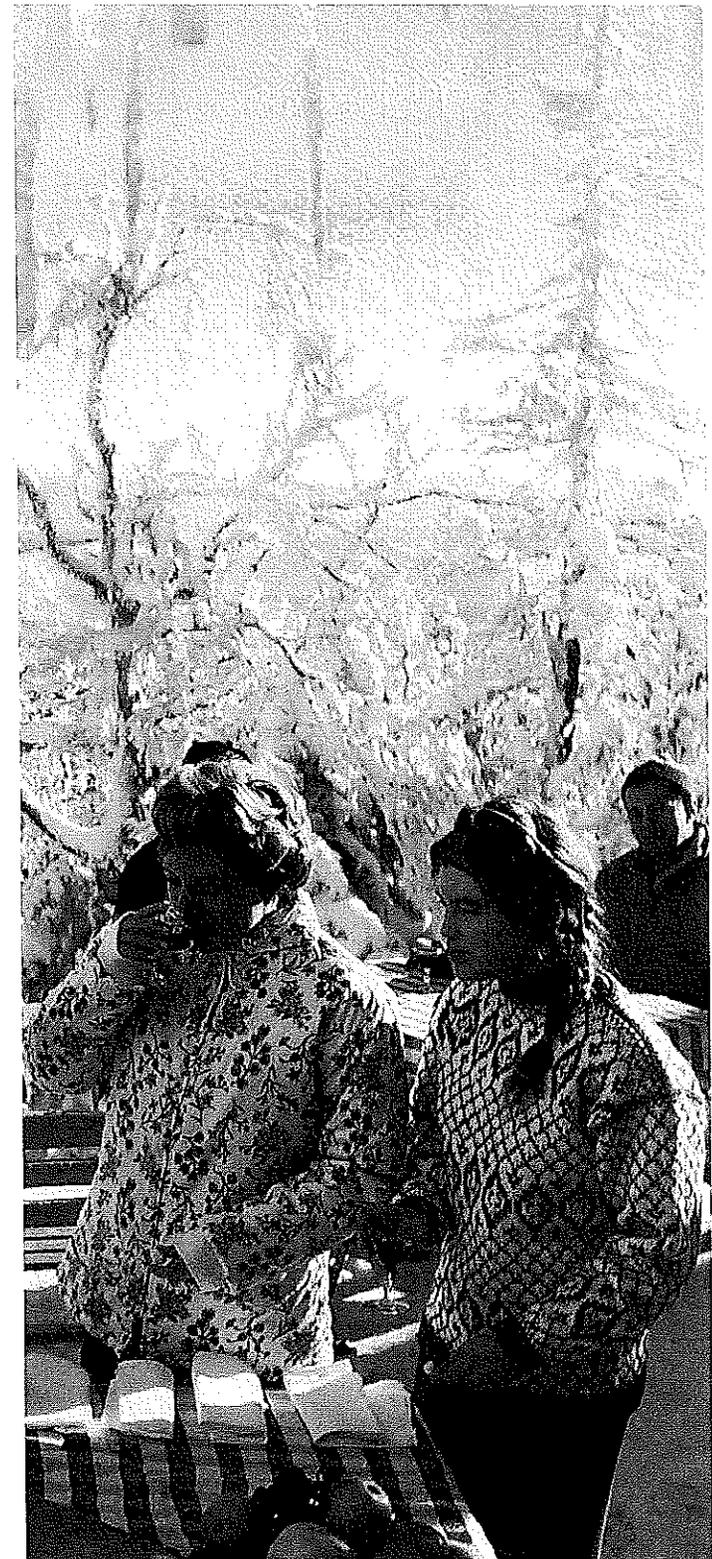
eventually grew to become the civic and commercial center of the town. Economic changes immediately following the Civil War led to many mills throughout New England closing. Towns like Warren stopped growing and entered a period of population decline that lasted into the 20th century. The 1927 flood and a series of major fires resulted in the nearly complete loss of all the mills and manufacturing operations in town by the 1950s.

### 3.2.03 **1850 TO 1950**

Between 1850 and 1950, change occurred slowly in Warren. The economy shifted away from manufacturing to dairy farming. Sugaring, once just a way to produce affordable sugar for home use, became an opportunity for farmers to supplement their income. The U.S. Forest Service began acquiring land in Warren during the Great Depression and also during the 1930s, the ski industry began to develop.

### 3.2.04 **1950 TO PRESENT**

The ski industry completely reshaped Warren in the second half of the 20th century. By the early 1980s, Sugarbush had become a major resort destination and second home development was proliferating.





### 3.3 COMMUNITY PROFILE

#### 3.3.01 DEMOGRAPHICS

**Population Change.** The 2010 Census counted 1,705 people whose primary residence was in Warren. Population change is driven by economic change and Warren experienced population trends similar to those in most rural Vermont communities – a period of growth in the first half of the 1800s followed by a century of population stagnation or decline. Economic conditions changed in the 1960s and '70s with the expansion of Sugarbush Resort and construction of Interstate 89, transforming Warren from an agricultural community to a resort destination. Those economic changes resulted a period of rapid population growth that was sustained through the 1990s.

Warren’s population has remained relatively stable since 2000. This is similar to trends in most of the state. For more than 15 years, there has been little population growth in Vermont outside Chittenden County. Statewide and regional population projections that are based on earlier high-growth decades are not useful for predicting future population change. Without a significant change in economic conditions, it is unlikely that the town will experience another period of rapid growth.

**Population Characteristics.** The demographic characteristics of Warren residents has been consistent for several decades:

- Education and income levels are higher than state or county averages.
- The median age of Warren residents is higher than state or county averages.
- The population is less diverse than that in the state or county as a whole.

**Household Change.** The 2010 Census counted 771 households living year-round in Warren. In recent decades, the number of households has increased at a faster rate than the population because households have been getting smaller. It is households, more than individual residents, that drive demand for services.

Figure 11. Population Change in Warren, 1800 to 2010

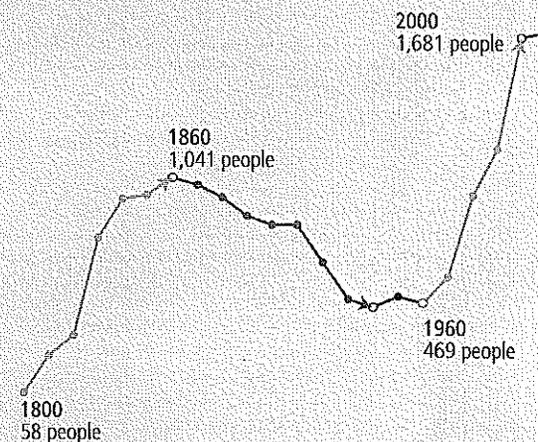
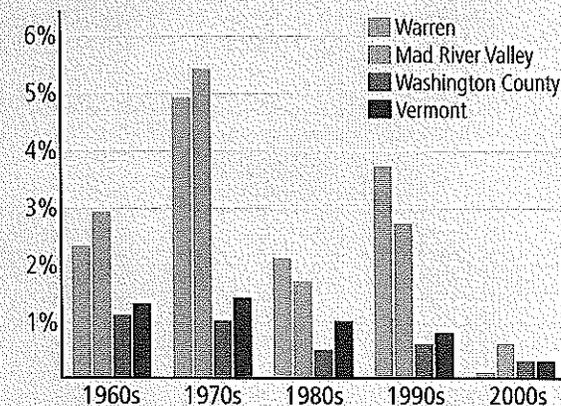


Figure 12. Average Annual Rate of Population Change



After a 40-year period of rapid growth, Warren’s year-round population has remained stable at around 1,700 people since 2000. Average annual growth rates are well below 1% in Warren, as they are across most of Vermont.



**Household Characteristics.** The distinguishing characteristics of households living year-round in Warren include the:

- Predominance of one- and two- person households (more than 70% of households in 2010).
- Limited number of households with children under age 18 living at home (approximately 25% of all households in 2010).
- Number of non-family households (approximately 45% of all households in 2010), which includes households composed of single or unrelated (by blood, marriage or adoption) people.

**Part-Time Residents.** Data available from the Census Bureau and other sources does not accurately reflect Warren’s demographics because of the substantial number of people who live in town only part of the year. Given that 60 to 70% of dwellings in town are seasonal or second homes, there are more people living in Warren part-time than year-round.

### 3.3.02 HOUSING

**Housing Change.** Warren’s housing stock reflects the town’s rapid development as a resort community:

- The 2010 Census counted 2,232 housing units in Warren, only 35% of which were occupied by a year-round resident. 60% of the town’s housing stock (1,345 units) was vacation homes.
- Nearly 90% of the housing in Warren has been built since 1970.
- Approximately 70% of Warren’s housing stock was built in the 20-year period from 1970 and 1990, most of these were condominium units in and around Sugarbush Village intended for use as vacation homes.

The rate of housing construction in Warren has slowed significantly in recent decades. Generally, less than 20 new homes have been built in town each year since 1990.

**CVRPC Housing Distribution Plan.** The Central Vermont Regional Housing Distribution Plan (found on pages 6-16 to 6-18 of the 2016 Regional Plan, which is incorporated into this plan by reference) called upon Warren to plan for the addition

Figure 13. Housing Units by Type in Warren

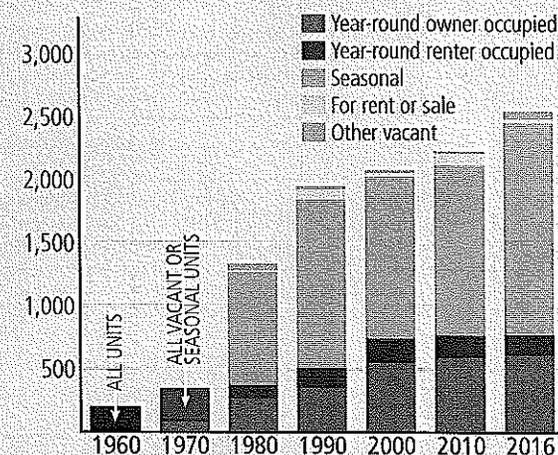
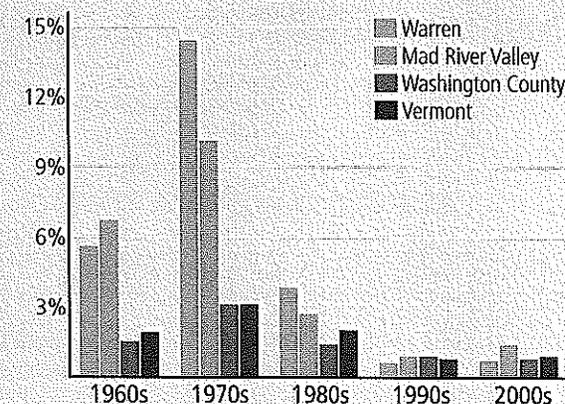


Figure 14. Average Annual Rate of Housing Construction



The rate of housing construction in Warren and the Mad River Valley has been similar to that in the county and state since 1990. Vacation homes account for most new housing built in Warren since 2000.



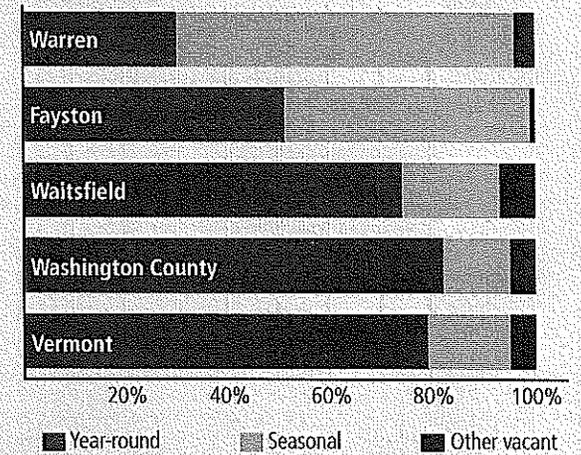
of 172 year-round homes during the 2000s and 212 during the 2010s. Less than 75 year-round homes were built in town from 2000 to 2016 (Figure 26). The distribution plan was based on a projection that was significantly higher than actual growth rates in the region (a 2.2% projected average annual growth rate as compared to actual growth rate of 0.4% in Warren). Clearly, the housing targets were unrealistic and for Warren would have represented a rate of growth that likely could not have been accommodated in a manner compatible with the policies of this plan.

Consistent with the land use policies expressed in this plan, the Town of Warren encourages new housing in the areas classified as Village, Mixed Use and Residential on the Future Land Use Map (Figure 26) and discourages housing in the Forest and Conservation and Rural Working Lands classifications. An appropriate rate of housing growth would not exceed an average annual rate of 1.7% (consistent with the rate of housing growth since 1990) so that it does not outpace the provision of infrastructure in designated growth areas and result in additional low-density, dispersed residential development in the rural areas of town.

**Housing Characteristics.** Warren’s housing stock is not typical of most rural Vermont towns as a result of vacation home development associated with Sugarbush resort. It is composed of:

- Significantly more vacation homes than the county or state as a whole, and more so than other Mad River Valley towns. Less than 40% of housing units in Warren are the occupants’ primary residence.
- Significantly more attached or multi-family housing than the county or state as a whole. Less than 45% of housing units in Warren are detached single-family homes.
- Much newer construction than the county or state as a whole. Less than 5% of housing units in Warren were built before 1950.
- Less rental housing (primary residences, not short-term vacation rentals) than the county or state as a whole. About 5% of housing units in Warren are occupied by a renter.
- Less diverse housing than in the county or state as a whole, which has implications for

Figure 15. Year-Round and Seasonal Housing Rates, 2016



**Seasonal homes comprise a larger share of the housing stock in Warren than in other Mad River Valley towns, and substantially more than county or state averages.**





affordability and for meeting the housing needs of a diversity of people at all stages of life.

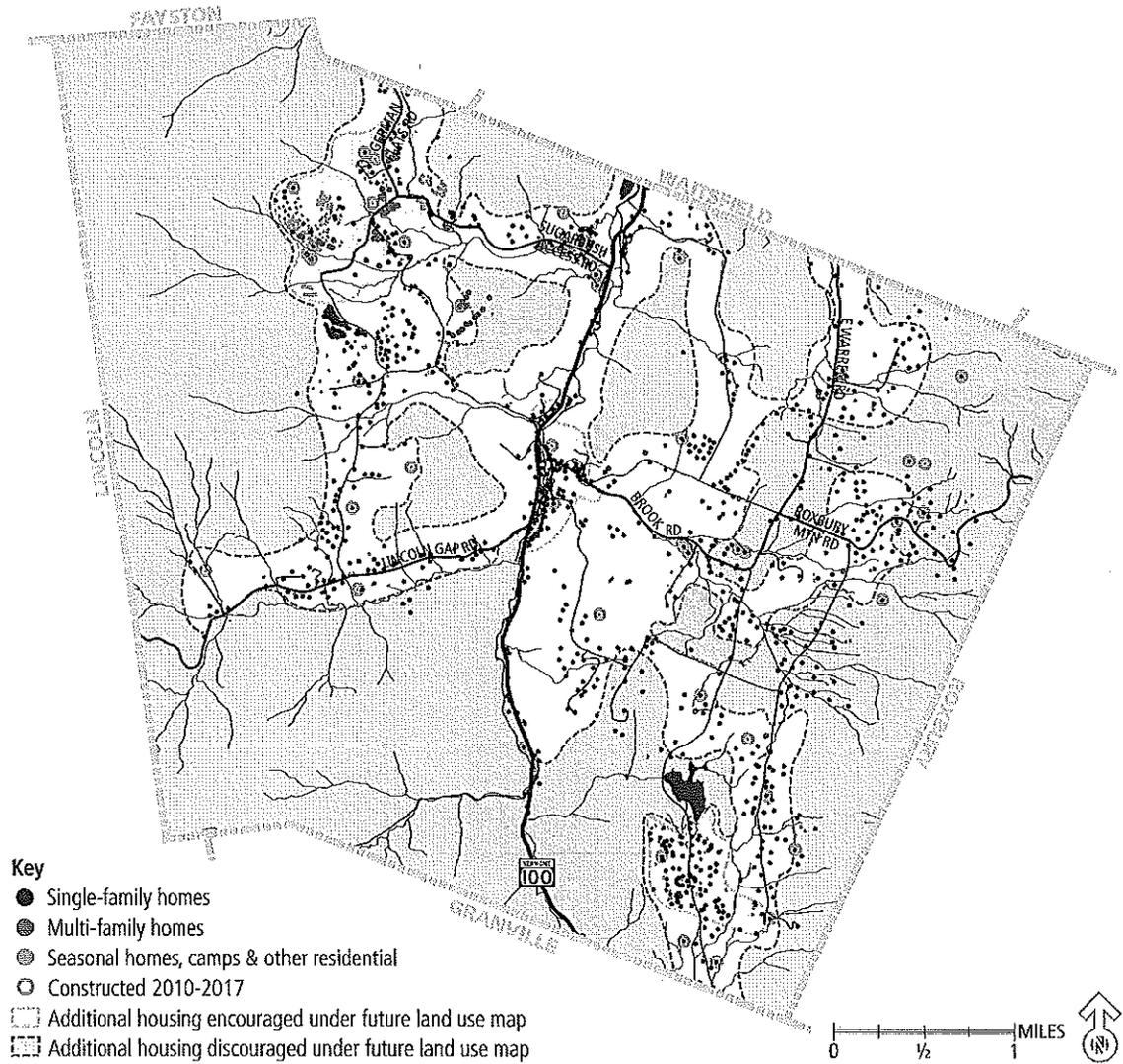
Warren’s housing stock is dominated by the vacation units built between 1970 and 1990. Some of those units are now almost 50 years old and are in need of upgrades, particularly to improve their energy efficiency. While much of that housing stock was constructed for vacation use, units regularly convert back and forth between seasonal and year-round occupancy. It is also common for second homeowners to generate income by renting out their units on a short-term basis. This fluidity in the housing market in response to changing economic conditions increases concern over the quality, condition, efficiency and cost of all housing in Warren – both vacation and year-round units.

**Residential Development Patterns.**

Warren remains characterized by a few areas of dense settlement surrounded by large areas of low density development and open space:

- Warren Village is densely settled but has not experienced much housing

Figure 16. Housing Map





development in recent decades. The provision of municipal wastewater in the village could support some additional housing, but substantial development within or expansion of Warren Village that would alter its historic small-town character is not planned or desired.

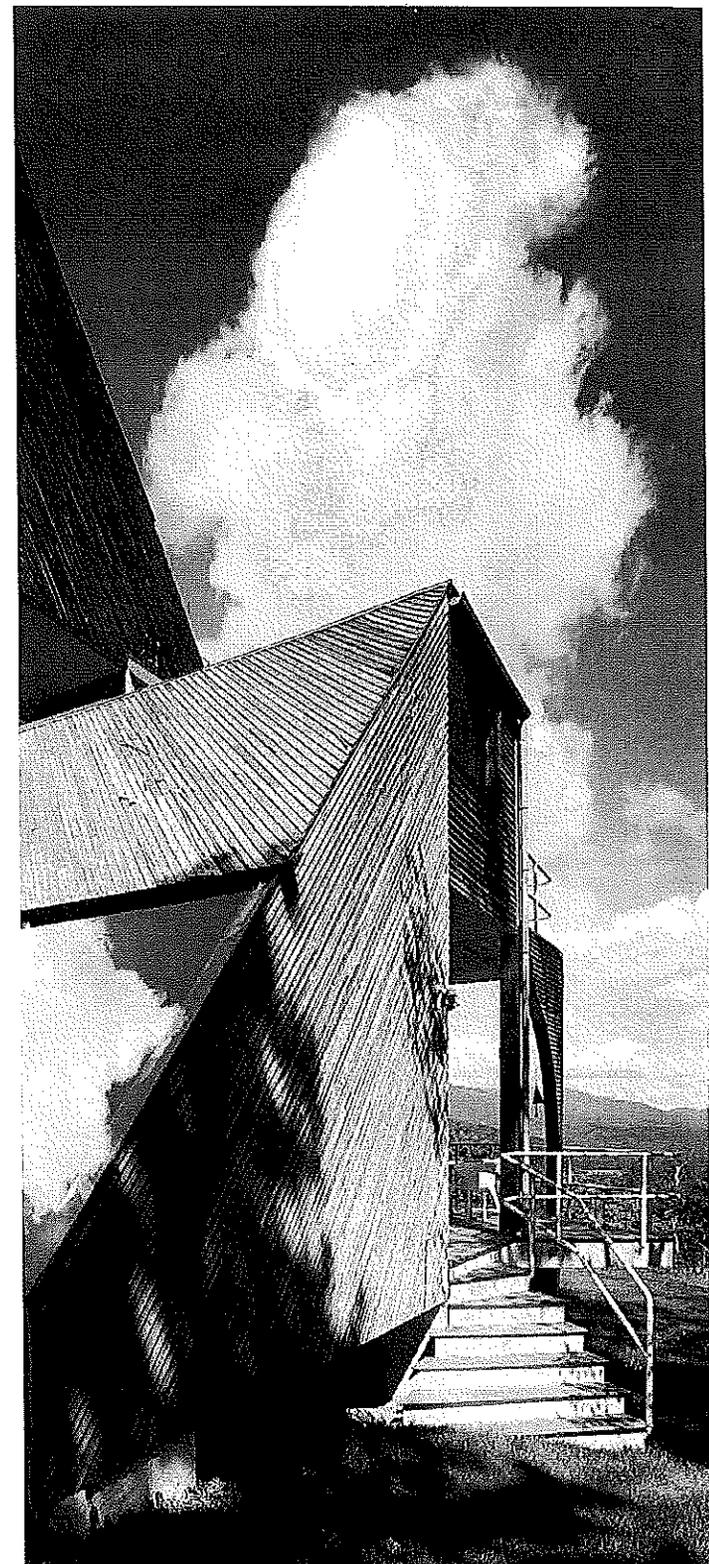
- Sugarbush Village, which was the focus of the rapid development that occurred in the 1970s and 1980s, has not experienced significant housing construction in recent decades. There were infrastructure upgrades in the mid-2000s that enabled some residential growth, but the potential number of additional units is limited by the capacity of Sugarbush Resort's wastewater treatment facility and disposal fields, as well as its Act 250 permit.
- Alpine Village has become further developed since the 1980s with more moderately priced housing than in either Warren or Sugarbush villages. However, there is no wastewater service in this area of town and the soils are not well suited for on-site wastewater disposal, limiting the potential for additional housing.

There are also smaller concentrations of residential development at the intersection of the Sugarbush Access Road and German Flats Road, the foot of the Sugarbush Access Road, in the vicinity of West Hill and Lincoln Gap Roads, Prickly Mountain, and several locations in East Warren.

Given the constraints in these settlement areas, much of the housing development that has occurred since the mid-1980s has been distributed throughout Warren's rural areas. Houses are being constructed at low densities in areas characterized by poor soils, steep slopes and limited access. If this trend were to continue, Warren's rural character and scenic landscape would ultimately be diminished and replaced by a suburban development pattern.

Warren amended its land use regulations in the early 2000s to address community concerns about scattered residential development in the rural areas of town. While appropriate house siting, lot configuration and preservation of open space can protect rural and scenic character, other adverse impacts of dispersed, low-density housing are not as easily mitigated such as:

- Higher construction costs;



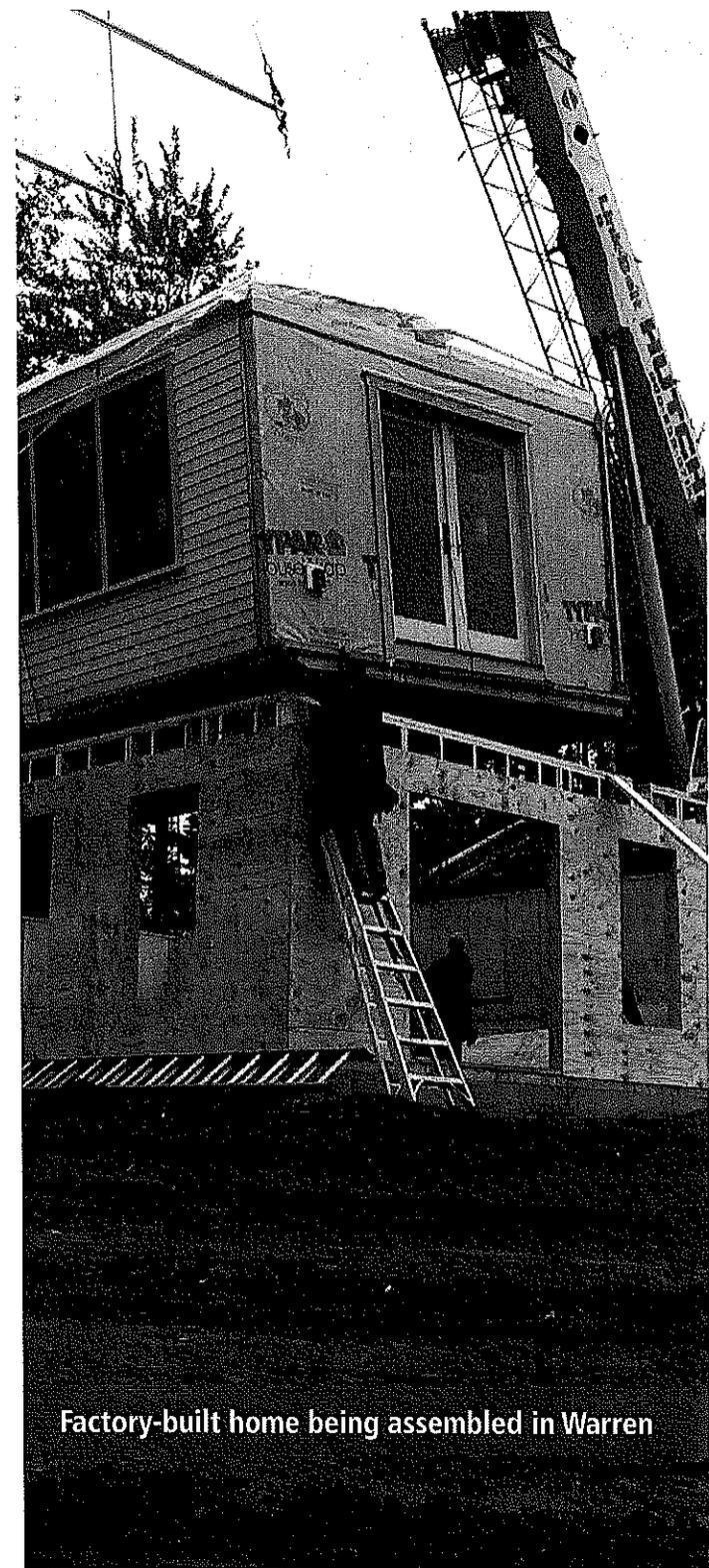


- Increased cost of providing services;
- More energy used for transportation;
- Fragmentation of wildlife habitat; and
- Additional forest clearing and construction of impervious surfaces that can lead to reduced water quality and increased flooding downslope.

Anecdotal evidence suggests that the market demand for large rural homes on large lots is declining as the population ages, households get smaller and lifestyle preferences change, exacerbating the mismatch between housing supply and housing demand in Warren. Warren faces a challenge similar to many Vermont towns – the overarching planning goal of compact settlements separated by rural countryside is not readily achievable due to a lack of infrastructure to support higher-density development and the market is not producing the housing the community needs or desires, both for current residents who want to age in place and for the next generation of residents.

**Housing Affordability.** The cost and availability of housing is widely considered a problem in Warren. As a resort community with an economy heavily dependent on tourism, Warren has faced the double challenge of high-priced housing and low-wage jobs for many decades. The perception that the demand for vacation housing prices local residents and workers out of the market is widespread. The best available data does not provide as clear a picture of housing affordability in Warren:

- Median sale prices of single-family homes that are primary residences are highly variable from year-to-year as a result of a relatively small number of sales in any given year. Those prices have generally been higher than in the county or state as a whole over the past 30 years. However, home prices in Warren have not been consistently higher and since the late 2000s they have not been substantially higher than county or state averages. In 2016, a household earning \$67,000 or with \$22,000 in cash at closing could have affordably purchased a single-family home in Warren at the median sale price of \$229,000. Those who purchased homes, particularly at the upper end of the price range, in the early 2000s prior to the recession may find themselves now owning a home that is worth less than the original purchase price or that has not gained appreciable value over the past decade.

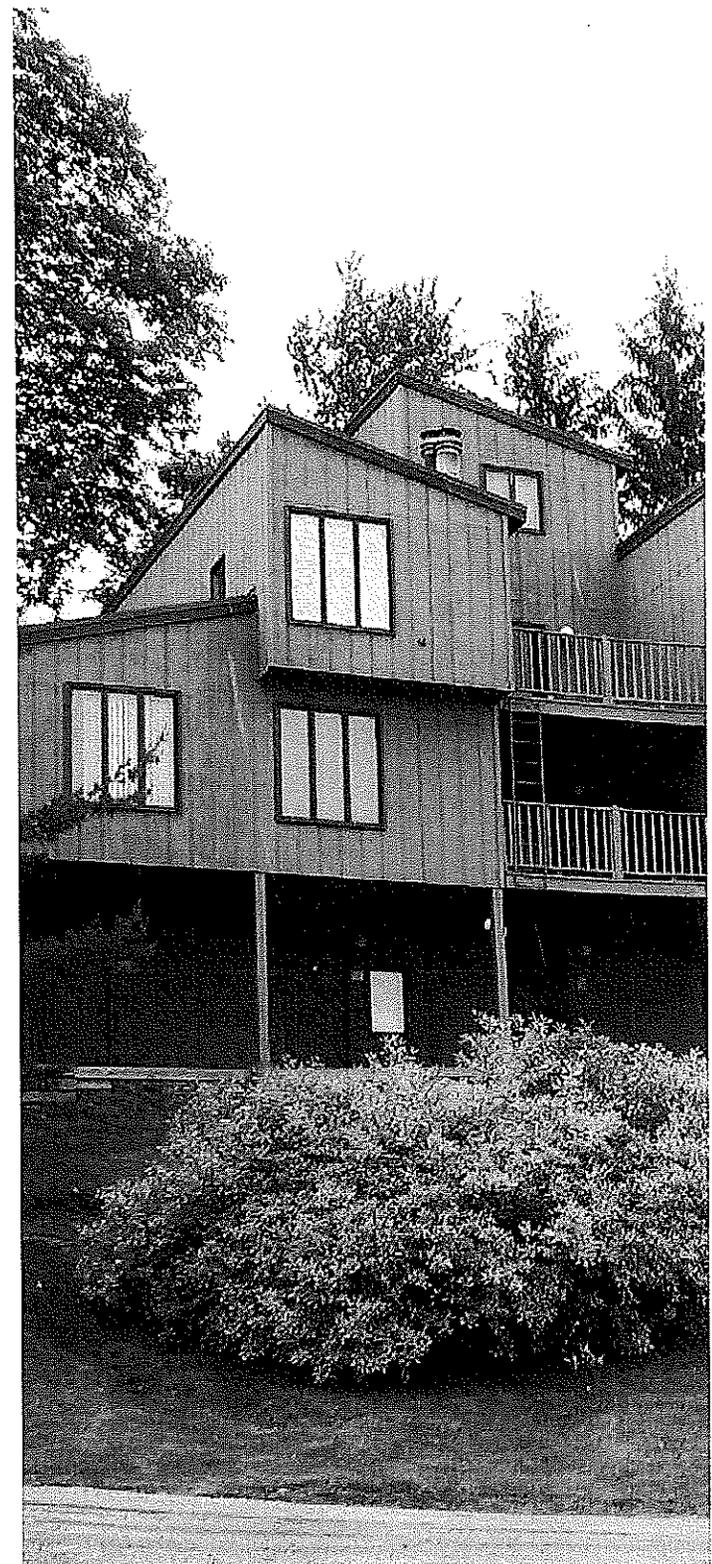


Factory-built home being assembled in Warren



- Median sale prices of condos that are primary residences have also been highly variable over the past 30 years and have often been lower than in the county or state. In 2016, a household earning \$37,000 or more with \$13,000 in cash at closing could have affordably purchased a condo in Warren at the median sale price of \$124,400. While purchase prices are relatively affordable, anecdotal evidence suggests that the operating costs of the condos built in the 1970s and '80s are higher than average and that many of these units are at an age when they need significant investment in repairs and maintenance. Residents also have to pay association fees, which further increases their housing costs.
- Residences selling as vacation homes have not generally been priced significantly higher than those selling as primary residences. Further after adjusting for inflation, vacation condos have not increased in value and vacation single-family homes have increased only modestly in value during the past 30 years.
- The median assessed value of single-family homes in Warren is substantially higher than the median sale prices. In 2016, the median assessed value of a single-family home that was a primary residence was \$317,250 and for single-family vacation homes it was \$315,700. The median assessed value of condos in 2016 was similar to sales prices - \$126,100 for primary residences and \$166,500 for vacation units.
- Property tax rates in Warren in 2016 were close to the state median at 2.025 for homestead properties and 1.990 for non-residential properties. The property taxes on the median single-family home that was a primary residence would have been approximately \$6,400 (not taking into account any income sensitivity adjustments) and on the median vacation condo would have been approximately \$3,300.

The Mad River Valley towns have been studying the demand for and affordability of housing in the area since 1990 when the towns, the Mad River Valley Planning District, Sugarbush Resort and the Mad River Valley Housing Coalition (a non-profit advocacy group) worked together to produce A Future for Affordable Housing in the Mad River Valley. That study addressed numerous housing issues including the need for more elderly, affordable, rental and employee housing. Over the past several decades, Warren has implemented several of the recommendations in that report and the Planning





District has periodically updated that study. The most recent update is the 2017 Mad River Valley Housing Study, which is incorporated into this plan by reference.

**Workforce Housing.** Warren is the epicenter of seasonal employment in the Mad River Valley with its associated demand for temporary workforce housing. It has long been the case that there is only enough housing in the Mad River Valley towns for a portion of Sugarbush's employees and what housing is available is often not affordable for low-wage service workers.

### 3.3.03 **ECONOMY**

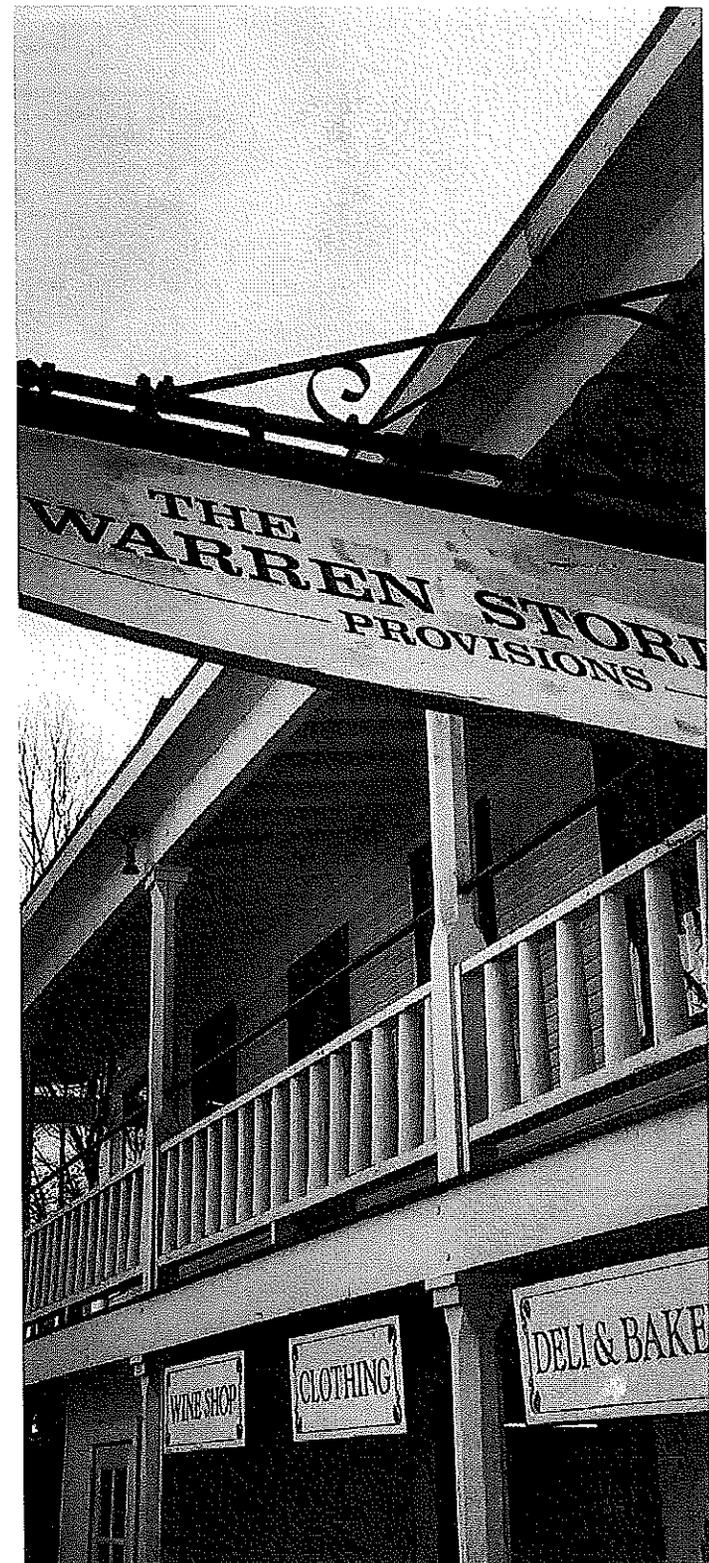
**Change in the Town's Economy.** Warren's economy shifted dramatically in the 1970s and '80s as the community transitioned from a rural town to a resort community. Farming and forestry were replaced as the cornerstones of the local economy with tourism.

For the past two decades, Warren's economy has been relatively stable. There have been at least 100 employers in Warren since the late-1990s (this only includes business locations with employees who are covered by unemployment insurance). The total number of jobs in those establishments has tracked national and regional economic cycles, increasing when the economy is expanding and decreasing when it is contracting. There were more than 1,000 jobs covered by unemployment insurance in Warren in 2016.

Warren has become an employment center in the Mad River Valley. The Census Bureau estimated that nearly 800 people commuted into Warren to work in 2015, while approximately 250 Warren residents worked in town and 450 residents commuted to jobs outside Warren. The census data suggests that most of the new jobs created during the past 15 years are held by people commuting into Warren rather than living in town.

**Characteristics of the Town's Economy.** Warren's economy is typical of a small town, resort community:

- The leisure and hospitality sector employs the largest number of people in Warren. According to the Vermont Department of Labor (VTDL), that sector accounted for 16 establishments



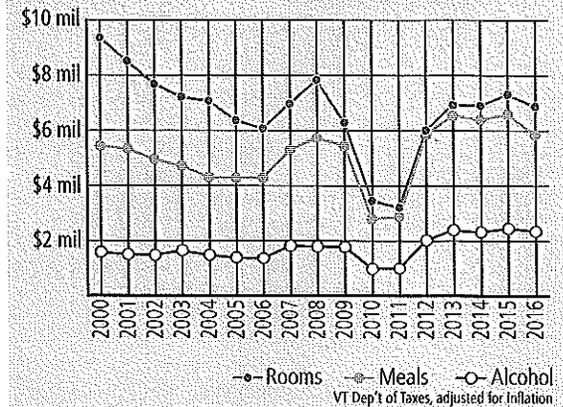


and 627 jobs (more than 60% of all jobs in town) in 2016.

- Tax receipts indicate that approximately \$15 million was spent in Warren on meals, rooms and alcohol in 2016. This data is a clear indicator of tourism-related business activity.
- The majority of jobs in town are in service sector (leisure and hospitality primarily, but also retail) and pay low wages. Many of these jobs are part-time and/or seasonal. According to the Census Bureau, more than half the workers in Warren earned not more than \$15,000 (\$1,250) annually from their primary job in 2015. That income falls below the living wage for Washington County, which was estimated to be a minimum of \$18,000 per year (for a household with 2 working adults and no dependents) to \$60,000 per year (for a household with 1 working adult supporting two children). The living wage is defined as the minimum income needed for a household to be financially independent and not need public assistance or suffer consistent and severe housing and food insecurity.
- Evidence suggests that a significant number of people working in Warren have more than one job. According to the Census Bureau in 2015, there were approximately 200 people working at a job in Warren that was not their primary (highest earning) job.
- Evidence suggests that a considerable number of Warren residents are self-employed. These jobs and earnings are not included in the data provided by the VTDOL. According to the 2011-15 American Community Survey (Census Bureau), more than 20% of Warren households reported some self-employment income during the previous 12 months and 10% of residents in the workforce stated that they worked from home.
- The unemployment rate among Warren residents is very low. According to the VTDOL, only 2.4% of the 1,030 Warren residents in the labor force was unemployed in 2016, as compared to a statewide unemployment rate of 3.3%. Due to the seasonal nature of many jobs in Warren, the unemployment rate in Warren rises and falls throughout the year with the highest unemployment rates occurring during the spring and fall "shoulder seasons" for the tourism sector.

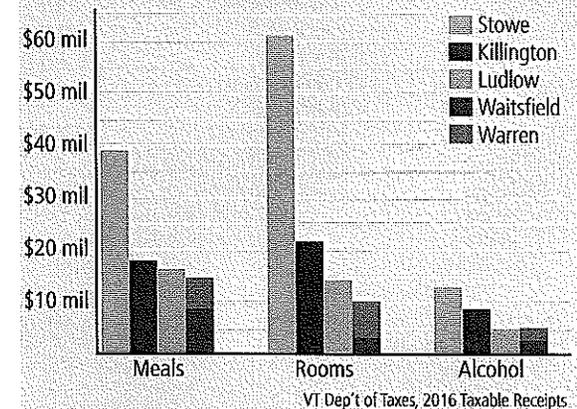
**Tourism Sector and Sugarbush Resort.** Tourism is Warren's dominant industry as evidenced by multiple indicators, including the number of local jobs and percentage of the town's tax base it represents. Less easily measured is the contribution of the tourism sector to Warren's quality of life. Many of the recreation, commercial, economic and

Figure 17. Taxable Receipts & Skier Visits in Warren, 2000-2016



**A reduction in the correlation between tax receipts and skier visits would be an indicator that Warren's tourism economy is becoming more diversified and less seasonal.**

Figure 18. Taxable Receipts in Ski Resort Towns, 2016



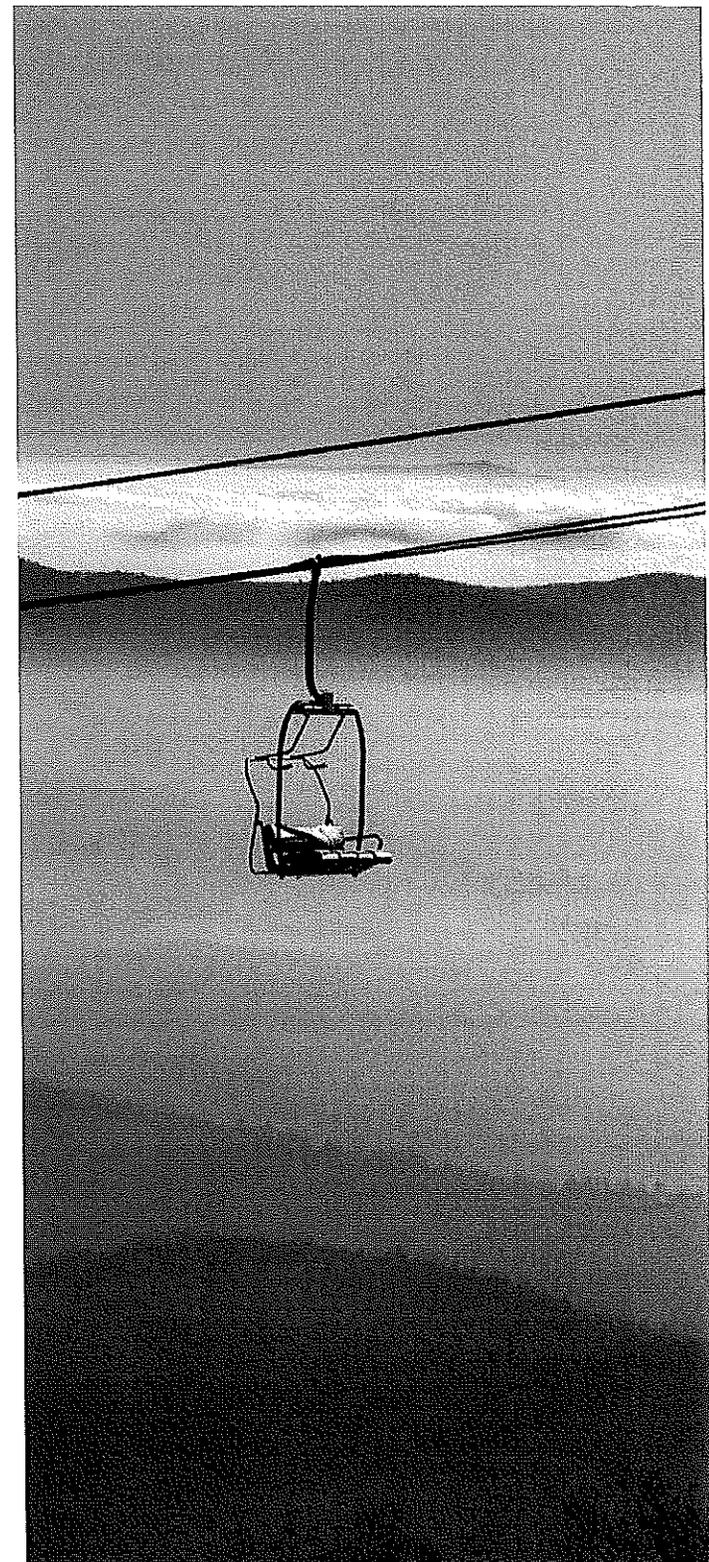
**Even when receipts in Warren and Waitsfield are combined, tax receipts are lower than other resort towns in Vermont.**



cultural amenities enjoyed by local residents are made possible by the steady influx of visitors to the area and the contribution of second homes to the tax base.

Sugarbush Resort is the town's principal tourist attraction. Sugarbush was founded in 1958, but the ski area's current character was shaped during the late 1970s and early 1980s when Sugarbush Village and the majority of the Mad River Valley's commercial bed base was developed. Key milestones in the planning, growth and development of Sugarbush Resort include:

- ◉ In the late 1970s and early 1980s, Sugarbush Resort enjoyed a relatively high percentage of market share within Vermont's ski industry. 1981/82 was the peak year for annual skier visits, which exceeded 430,000.
- ◉ Sugarbush released a mountain master plan in 1983 designed to increase the capacity of the mountain from 6,800 skiers per day to more than 10,000. This proposed expansion raised significant community concerns over the potential impact on the Mad River Valley's public infrastructure and quality of life. In response, Sugarbush, the valley towns, the Central Vermont Regional Planning Commission and the State of Vermont entered into a Memorandum of Understanding (MOU) to phase any expansion in a manner that does not over-burden the valley's capacity to accommodate it. The MOU has remained in effect since 1983, and was updated and reaffirmed by the parties in 1998. The MOU, as most recently agreed to, is adopted by reference into this plan.
- ◉ Most of the expansion envisioned in the 1983 master plan was not realized. In the years since, skier visits have declined. The Master Development Plan was updated 1996, and identified improvements aimed at regaining Sugarbush's competitive advantage relative to other ski resorts. The current comfortable carrying capacity of Sugarbush is 8,690 skiers per day. The 1996 plan continues to envision expansion in capacity to serve more than 10,000 skiers per day and 600,000 annual skier visits.
- ◉ Improvements made at Sugarbush Resort during the 1990s included an expansion of snow-making capacity, the installation of the inter-tie lift connecting Lincoln Peak and Mount Ellen (formerly Sugarbush South and North), and several key lifts were upgraded.
- ◉ During the 2000s, the base of Lincoln Peak was redeveloped, additional on-mountain lodging





and service facilities were built, and additional lifts were replaced. The Town of Warren revised its Land Use and Development Regulations in 2001 to accommodate a growth center at the base of Sugarbush Resort.

- Sugarbush Resort has changed hands several times. American Skiing Company (ASC) acquired the mountain in 1994. In 2001, Sugarbush Resort was purchased by Summit Ventures NE, LLC, a group of local investors.

Historically, the vast majority of visitors to the Mad River Valley were skiers. While the ski areas remain the valley's greatest draw, the tourist season has expanded to include summer and autumn. Four-season tourism is more dependent upon the combination of the area's natural beauty, outdoor recreation and mix of cultural activities. The new facilities at Lincoln Peak and year-round amenities at Sugarbush Resort, as well as the sponsorship of large events, has made Sugarbush Resort a driving force behind the transition to four-season tourism.

Ensuring the viability of Sugarbush Resort, by upgrading facilities and expanding the use of existing accommodations at and around the base of the ski area, has long been a shared goal for the town and the resort. Concerns about expansion that would overburden local infrastructure, undermine established businesses or threaten the town's character can be addressed through:

- Continued support and implementation of the MOU to ensure a balance between ski area activity and public facilities;
- Coordination between the town, resort and local businesses to ensure that the benefits of ski area expansion are shared by the entire community; and,
- An emphasis on developing the types of businesses, facilities and amenities that reflect Warren's character.

#### 3.3.04 ENERGY

**Change in Energy Use.** The transition from a rural to resort community reshaped Warren's energy use. That transition occurred concurrently with broader changes in transportation, settlement patterns and our way of life that also affected the type and



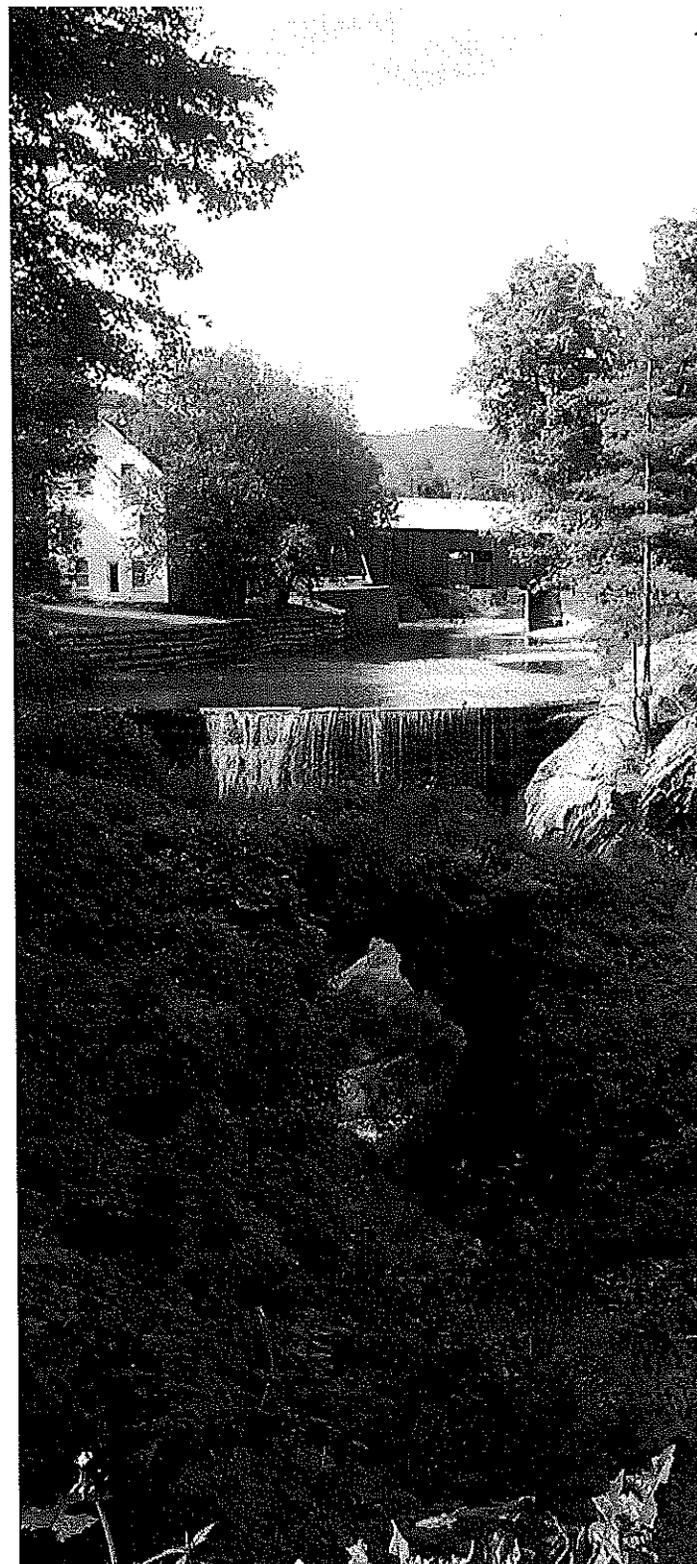


amount of energy people use in the course of daily life and for commercial purposes. The Supplemental Energy Information (Appendix 1), [2016 energy data report](#) from Central Vermont Regional Planning Commission and the [Vermont Energy Dashboard](#) provide further information about current energy use in Warren.

**Electricity.** Due to the number of second homes in Warren, it is difficult to precisely calculate the amount of power used by year-round residents. The total amount of electricity used by residential customers in Warren in 2016 was 15 million kWh, which is equivalent to the power used by roughly 2,100 average Vermont households. Given that there are about 2,200 housing units (year-round and seasonal) in Warren and that more than 60% of these units are only occupied for part of the year and therefore should have lower energy usage, the data suggests that electricity use by Warren households is higher than state averages. This is consistent with what is known about the climate, energy efficiency of the housing stock and relatively high percentage of homes that have electric heat.

The principal commercial electricity customer in Warren is Sugarbush Resort. Ski area operation is energy intensive. Snowmaking, which has become increasingly necessary due to climate change, requires substantial amounts of electricity. Sugarbush and Green Mountain Power developed and began implementing an electrical load management plan in 1989 to stabilize energy demand and implement a conservation program at the ski area. Electrical demand as measured at the Mad Bush substation grew from 3.4 megawatts in 1966 to a peak of 16.73 megawatts in 2009. That demand had been reduced to 8.29 megawatts in 2014 primarily as a result of new snowmaking equipment and other efficiency upgrades at Sugarbush Resort.

**Thermal.** Rough estimates of thermal energy use prepared by the Central Vermont Regional Planning Commission in 2016 suggest that heating year-round homes in Warren requires about 75 billion BTUs of energy and according to the Census Bureau nearly 60% of those homes were heated with propane (another 20% used wood and 15% used fuel oil). The amount of energy required for space heating is driven by building design and construction.



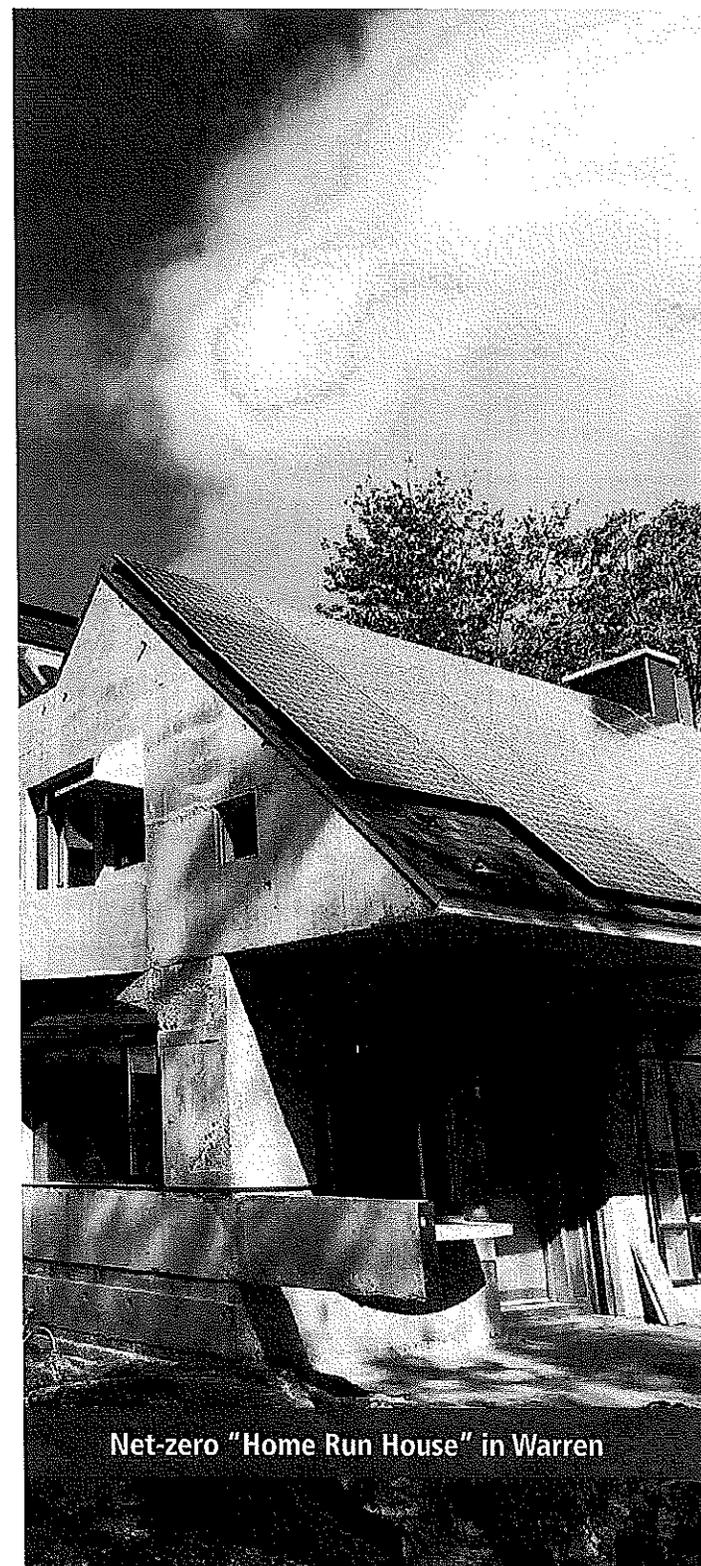


The RPC further estimated that commercial establishments used about 60 billion BTUs of thermal energy. This leaves around 75 billion BTUs of thermal energy unaccounted for, a significant portion of which is likely used to heat seasonal homes. All these figures are rough estimates, however, as detailed information about thermal energy use at the town level is not available.

**Transportation.** Estimates on the [Vermont Energy Dashboard](#) suggest that approximately 161 billion BTUs of energy was used by vehicles registered in Warren for transportation (personal and commercial) in 2015, which is equivalent to driving 33 million miles in a vehicle that gets 25 miles to the gallon. Similar to the estimates of thermal energy use, there is little information about actual energy used for transportation at the town level.

**State Energy Goal.** The State of Vermont has set a goal of generating 90% of the energy used in the state from renewable sources by 2050. Currently, Warren is only meeting about one-third of its energy needs through renewables. The [Vermont Energy Dashboard](#) estimates what it will take for Warren to meet the 90% goal through efficiency and renewables. That scenario requires that the total amount of energy used in town be reduced by about 36% and the amount of renewable energy used be increased by nearly 80%. If energy demand were to remain at current levels, the amount of renewable energy needed would have to increase by about 165%.

Clearly, a future challenge will be to reduce energy consumption in general and to shift demand towards energy sources that are renewable and have an overall low environmental impact. Energy conservation measures such as increased user control, weather-stripping, insulation, caulking, etc., can reduce heat loss in buildings by 25-50%. The density of development can affect energy consumption. As the population is dispersed across the town, more energy is consumed for transportation. There is also a transmission loss over the long power lines required to service dispersed development.



Net-zero "Home Run House" in Warren



## 3.4 COMMUNITY RESOURCES

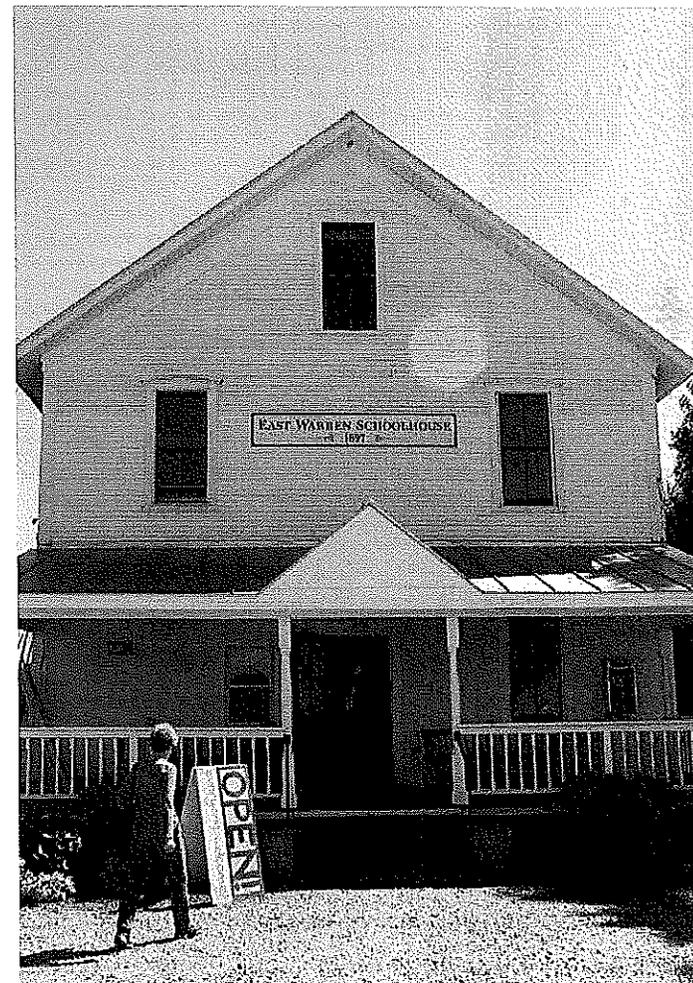
### 3.4.01 WORKING LANDS

**Agriculture.** Warren's early settlement patterns were influenced by the location of suitable farmland. Agriculture was a cornerstone of the town's economy and shaped residents' way of life for more than 150 years. While farming is no longer a primary income source for most residents, the contrast between open fields and wooded hillsides continues to define town's scenic beauty and rural character.

Farmland is distributed broadly throughout East Warren, in the valley floor along Route 100 and, to a lesser extent, on Fuller Hill and in Lincoln Hollow (see [Figure 19](#)). The current state of agriculture in Warren is summarized below:

- Dairy farming in Warren has steadily declined since the 1980s, which is consistent with statewide trends. In 1965, eight dairy farms operated in town and today a single dairy remains. This remaining dairy is relatively large by Vermont standards, with a herd of approximately 1,000 head. Operated by a local family, the farm is responsible for maintaining a major portion of the open land in Warren, as well as significant farmland acreage in neighboring Waitsfield and Fayston.
- There has been increased interest and investment in horse-based recreational and commercial activity in recent decades. This has resulted in the reclamation of former pasture land and construction of numerous barns, stables, and indoor riding arenas. Private horse ownership also creates a local market for hay, which further contributes to the maintenance of farmland.
- Since the late 1990s, small-scale, diversified agriculture has seen a resurgence in Warren as elsewhere in Vermont. The localvore movement has encouraged the production of more locally produced agricultural products. One example of this trend is the Kingsbury Farm, which was conserved in 2009 and now grows vegetables. Small-scale "homestead" farms also contribute to the maintenance of open land.

To date, Warren has retained many elements of its agrarian heritage. Recognizing that development on farmland threatens the town's rural character, Warren has taken the following steps to protect farmland and the highly valued pastoral landscape it creates:



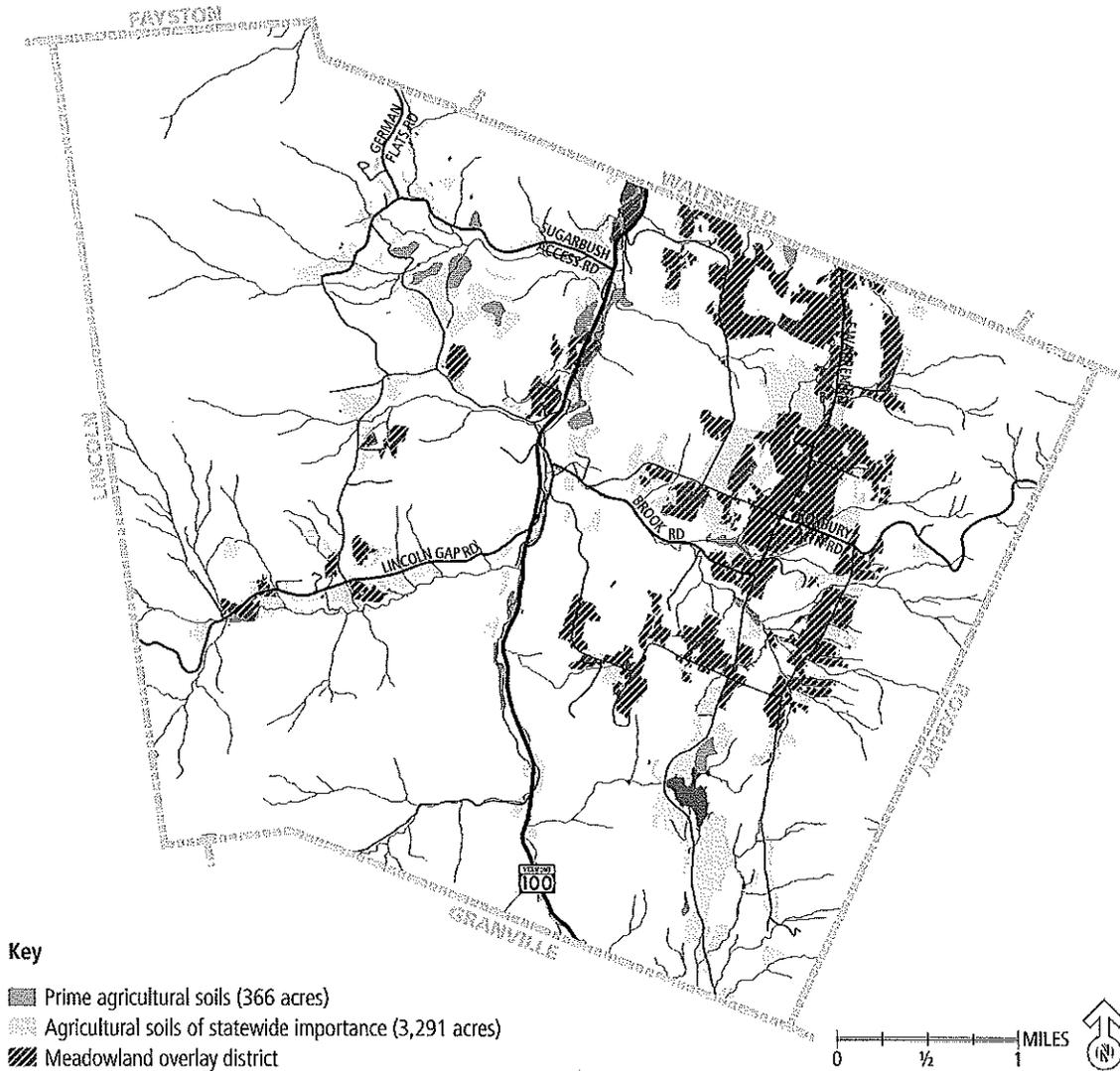
The town-owned East Warren Schoolhouse, which was renovated and rented by the Rootswork organization, and the surrounding private lands serve as the focus of this movement. Rootswork and related enterprises have operated a local market at the schoolhouse, a specialty cheese business, a school for cheese makers, a community garden, CSA vegetable purchasing cooperative, a flower farm and a root cellar. Rootswork has made the second floor of the Schoolhouse available for group meetings and the kitchen available for short-term commercial use.



- The Meadowland Overlay District encompasses 1,800 acres (nearly all of the land actively farmed in 1979) and most of the town's prime agricultural soils. The purpose of the overlay district is to guide land subdivision and other development in a manner that minimizes fragmentation and conversion of farmland (current and former).
- Approximately 1,500 acres of farmland have been conserved in Warren. The town holds conservation easements on approximately 225 acres. The Mad River Watershed Conservation Partnership has assisted with putting an additional 350 acres of farmland under easement with the Vermont Land Trust. The Vermont Land Trust holds easements on over 900 acres of land within the Town of Warren. Within the past several years the State of Vermont and various private foundations have allocated considerable sums of money for farmland conservation, creating additional opportunities for future acquisition efforts.

**Forestry.** Much of the private forest land in Warren is under some form of forest management through the state's Current Use Program (see [Figure 20](#) and [Figure 21](#)).

Figure 19. Agricultural Soils & Meadowland Map



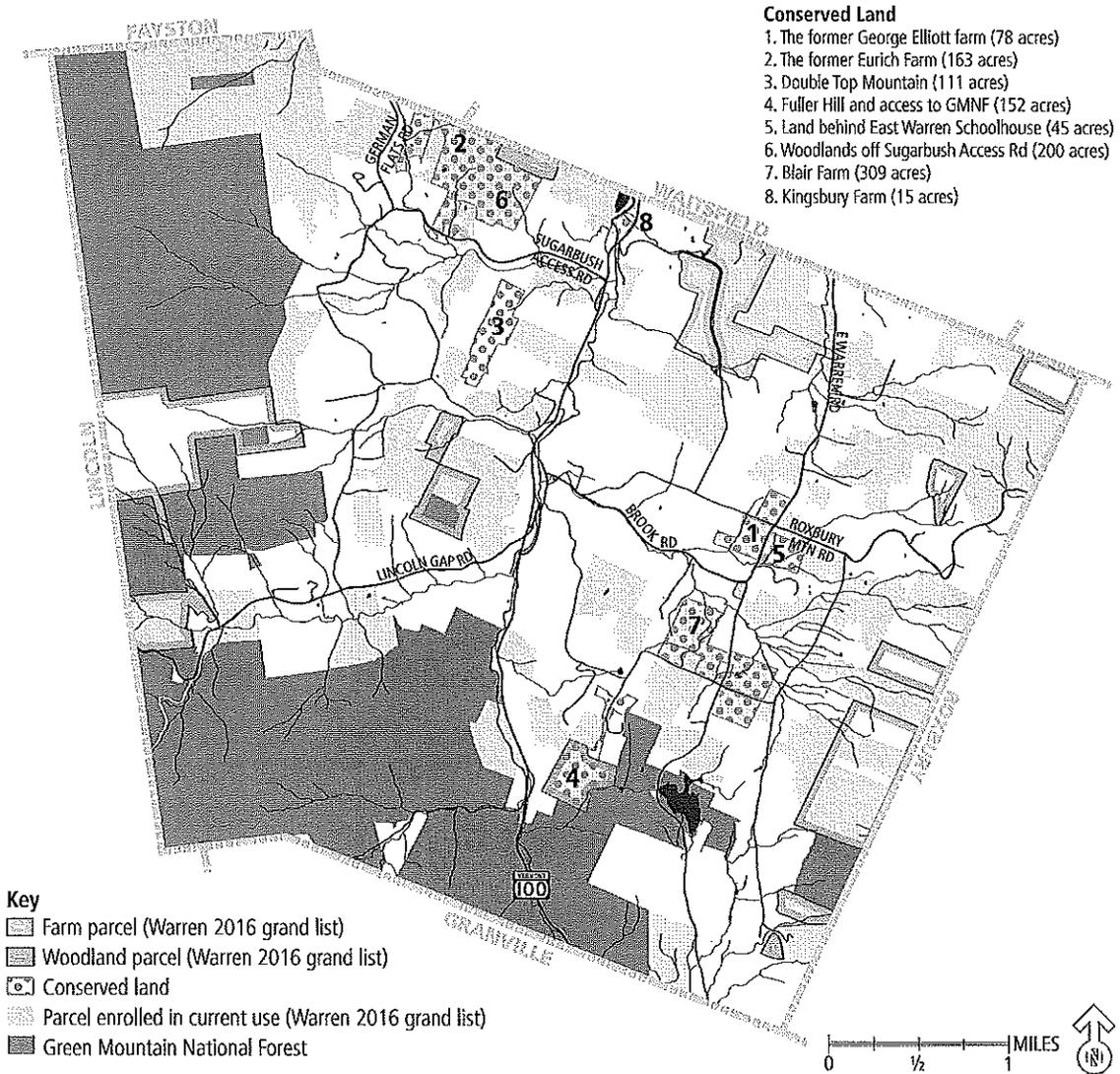


3.4.02 **MINERAL AND GROUND-WATER RESOURCES**

**Mineral Resources.** There is no commercial extraction of mineral deposits occurring and no significant mineral resource areas are known to exist in Warren. Any future extraction and processing of earth resources would be regulated locally through the town’s land use regulations and by the state through Act 250 in order to avoid, minimize and/or mitigate adverse impacts such as:

- Reduction of groundwater recharge and filtration, and possible contamination from on-site storage and disposal of materials.;
- Alteration of surface drainage patterns resulting in increased runoff, soil erosion and stream sedimentation;
- Destruction of natural or cultural resources;
- Noise, dust and truck traffic;
- Diminished scenic quality of the landscape and limitations on the future use of the site; and
- Reduction in neighboring property values.

Figure 20. Conserved and Working Lands





**Groundwater.** All Warren residents and businesses use groundwater as a potable water supply and most get their water from private drilled wells or springs (Sugarbush Village area is served by a community water system, Mountain Water Company, as discussed in [Section 3.5.03](#)). In areas of concentrated development with small lots, such as Warren Village and Alpine Village, the dependence on both on-site wells and septic systems poses a potential threat to groundwater quality. Providing community water and/or wastewater service in such areas could become necessary if groundwater contamination occurs or if the community wants to encourage further growth in those existing settlement areas.

### 3.4.03 ARCHAEOLOGICAL, HISTORIC AND CULTURAL RESOURCES

**Archaeological Sites.** Relatively little is known about Warren’s archaeological resources. Most archaeological excavation in Vermont occurs in response to proposed development, particularly projects with federal funding or in locations of archaeological sensitivity. In 2016, one such excavation occurred at the Warren Falls parking lot site and unearthed evidence of prehistoric Native Americans.

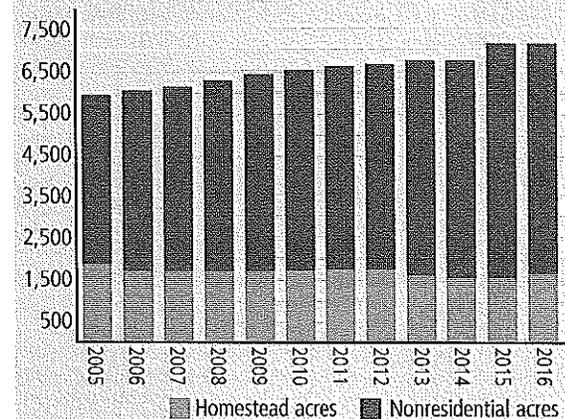
It is assumed that Native Americans ventured into the Mad River Valley during the Paleo-Indian period (10,000 - 7,500 BC), and at least one Paleo-Indian artifact (a fluted projectile point) has been documented in Waitsfield. It is thought that the Mad River was part of a trade route that connected via the White River to the Connecticut River and beyond. According to a 1989 study of the Mad River Valley prepared by Ann Dowd and Beth Trubitt, the most likely location for finding prehistoric artifacts is along the higher terraces above the river’s floodplain. This study provides information regarding archaeological sensitivity throughout Warren.

There are also archaeological sites that date to the post-contact period and provide evidence of 18<sup>th</sup> and 19<sup>th</sup> century industrial and agricultural activities in Warren. Mill sites exist on the Mad River in Warren Village and along other tributaries (the well-preserved site along the upper stretches of Stetson Brook, for example). Cellar holes document the earlier settlement pattern of hill farms in areas that are now re-forested.

Figure 21. Current Use Program

Vermont’s Use Value Appraisal (UVA) Program, commonly known as ‘Current Use’ enables private landowners engaged in long-term forestry or agricultural practices to have their land appraised based on the property’s value of production of wood or agricultural products rather than its residential or commercial development value. If land is removed from the program and is developed, the landowner must pay a land use change tax. The goal of this program is to encourage owners to keep land in productive use by reducing their tax burden.

The Current Use Program has been in place since 1980 but enrollment continues to increase steadily following changes to state education funding in the early 2000s that resulted in the establishment of the statewide education property tax and also led Warren to phase out its own tax stabilization program. Total acres enrolled in UVA in Warren between 2005 and 2016 are shown below. Approximately 85% of enrolled land in Warren is managed forestland and 15% is farmland.



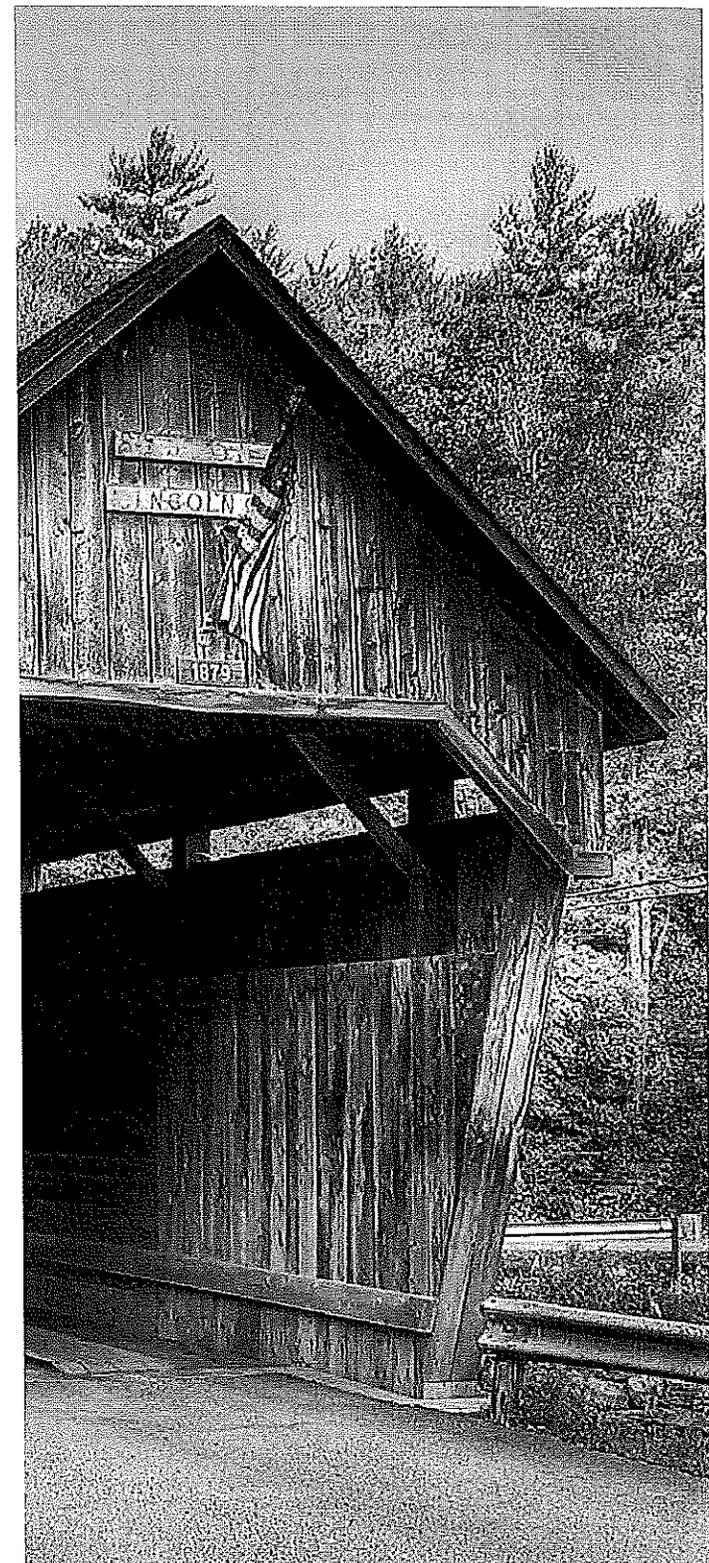


**Historic Sites and Structures.** Warren’s rural landscape is shaped by the integration of natural land forms, traditional land uses and the historic built environment. More than 100 properties have been listed on the Vermont Historic Sites and Structure Survey, completed by the Division for Historic Preservation in 1983 and updated by the Mad River Valley Rural Resource Commission in 2004. Properties on the state survey are eligible for listing in the National Register of Historic Places.

More than half of the historic structures remaining in town are located in Warren Village, which was placed in the National Register as a Historic District in 1990. This designation provides certain tax benefits to owners of income-producing properties who restore their buildings and offers some protection against federal actions that could harm the documented historic resources. Listing on the National Register imposes no restriction on the use or alteration of historic structures and therefore, provides only limited protection of these resources.

Unlike some historic districts that contain a high concentration of buildings representative of one particular style or era, Warren Village contains examples of the many styles and periods that mark Vermont’s history. This diversity allows for the continued evolution of the historic village without the need to impose any one architectural style. However, it is important that future development respect the village’s architectural traditions. Future development and/or infrastructure improvements can reinforce the character and architectural vernacular of the village. The replacement of the Pitcher Inn, which was destroyed by fire in 1993, is an example of modern development that is compatible with the town’s historic traditions.

Warren is home to a number of historic bridges, most notably, the Village Covered Bridge. Historic structures are also found outside of Warren Village. Generally, these sites reflect the agricultural history of the community and include farm houses and associated farm buildings, especially barns. Unfortunately, the high cost of upkeep and maintenance of large barns has resulted in several falling into disrepair after they are no longer used for agriculture. Adaptive re-use provisions have been added to the Land Use Development Regulations to help encourage the restoration and use of barns.





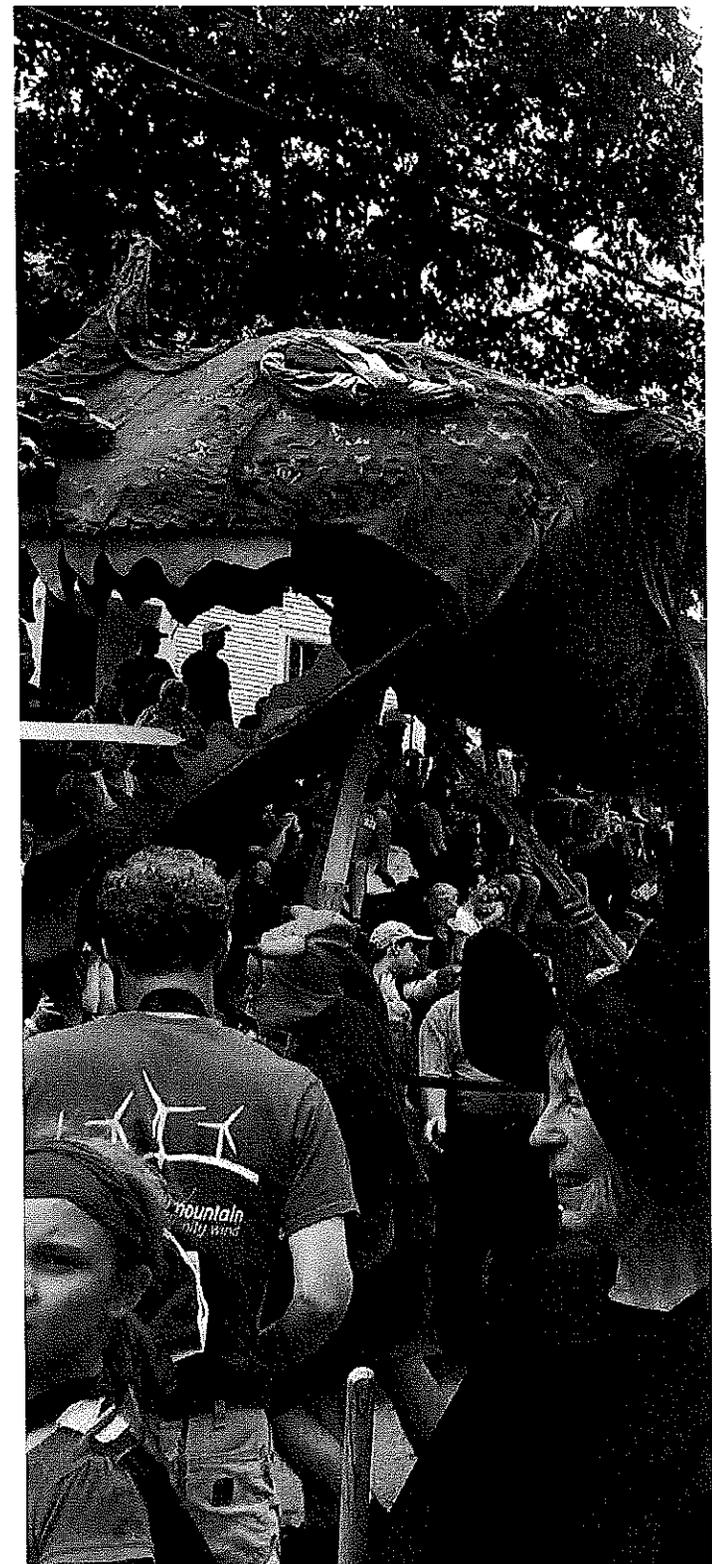
**Arts and Cultural Activities.** In recognition that arts and cultural activities both enhance the quality of life for residents and attract visitors, the town has supported the work of the Warren Arts Committee, which has organized a variety of musical and cultural events each year since its inception in 1987. Sugarbush also hosts musical events throughout the year. Music and art also play an important role in fund raising for charitable events.

#### 3.4.04 **RURAL AND SCENIC CHARACTER**

**Rural Character.** Despite the challenges to the economic viability of farming and forestry, Warren has retained much of its rural character. That character is created by the blending of complementary cultural and natural features. For the purposes of this plan, rural character is defined by the following elements:

- A working landscape, defined by sustainable development and use of land-based resources, especially farming and forestry. Although local residents are increasingly less dependent upon the land for their livelihood, the town's landscape and historic settlement patterns continue to attract new residents and visitors, and thereby continue to support the town's economic base.
- A healthy natural environment, including clean air and water, expanses of open land, healthy wildlife populations, and a common commitment to the protection of those shared resources.
- Diverse cultural amenities, including: historic buildings and settlement patterns; small-scale local institutions and organizations; and commercial, recreational and social opportunities that exceed those available to residents of many larger communities.
- A rural lifestyle, marked by relative privacy, peace and solitude; access to the land and nature; a lack of formality; and a strong sense of independence and individualism that is coupled with, though sometimes at odds with, a perception of community spirit and shared responsibility.

The 1988 Mad River Valley Rural Resource Protection Plan inventoried the identifiable landscape features that combine to create the Valley's rural character, and established goals and recommendations for preserving that character. The success of these efforts was documented in the 1998 publication Kicking Stones Down a Dirt Road: Rural Resource Protection in Vermont's Mad River Valley. The Mad River Watershed





Conservation Partnership updated the 1988 Rural Resource Protection Plan in 2004. The inventory allows the Partnership, town boards, and other organizations to easily consult a compendium of data when evaluating the Mad River watershed's landscape and natural features and thinking strategically about which lands are the most important to conserve.

**Scenic Landscape.** Warren's natural landscape is dominated by four distinct features:

- The rugged, steeply sloped ridgelines that enclose the valley to the east (Northfield Range) and west (Green Mountain Range);
- The north-flowing Mad River and adjacent floodplain which constitute the valley floor;
- A fertile plateau at mid-slope between the valley floor and the eastern ridge; and
- A feature somewhat unique to this particular valley, a series of intermediate ridges and freestanding knolls creating lesser east-west valleys.

Warren's built landscape responds to the natural landscape. Village centers and smaller hamlets have been positioned in the more level areas, on the floor, and along the upper plateau. These settlements are bounded by cropland pasture, as the terrain permits, and by sloping woodlands created by the intermediate ridges and knolls. This open land typically forms the backdrop or foreground for the built environment.

The road network provides a vantage point from which Warren's scenic beauty may be enjoyed. Locations where roads pass through open agricultural areas offer spectacular long and intermediate views. The Planning Commission inventories the visual qualities of town-maintained roads in 2002 using the Vermont Scenic Road Program's criteria and identified 23 miles of scenic roads.

There are a variety of tools available for protecting and enhancing the town's scenic landscape. The Land Use and Development Regulations are used to guide development in a manner that reinforces the historic settlement patterns and avoids the placement of structures that would stand in contrast to the surrounding landscape. Other regulatory provisions such as slope restrictions, resource protection overlay districts and clustering provisions also serve other policies related to natural resource protection and community

Based on the many past efforts to define the scenic landscape, the town's most important scenic features include:

- ① Open farmland and meadows, which often serve as the foreground for expansive views;
- ① Blueberry Lake, the Mad River and tributaries;
- ① Forested knolls, steep mountain-sides and ridgelines which provide the unbroken background for most distant views;
- ① Scenic roads, especially those of a scale and character that discourages high speed travel while offering a pleasant walking and recreational environment;
- ① Historic settlement patterns; and,
- ① Individual buildings which, because of their scale, character or historic significance, such as a large barn, serve as a visual and cultural focal point in the landscape.





facilities. Incentive programs, such as tax incentives, could also help landowners maintain the qualities of important properties that contribute to the town's landscape.

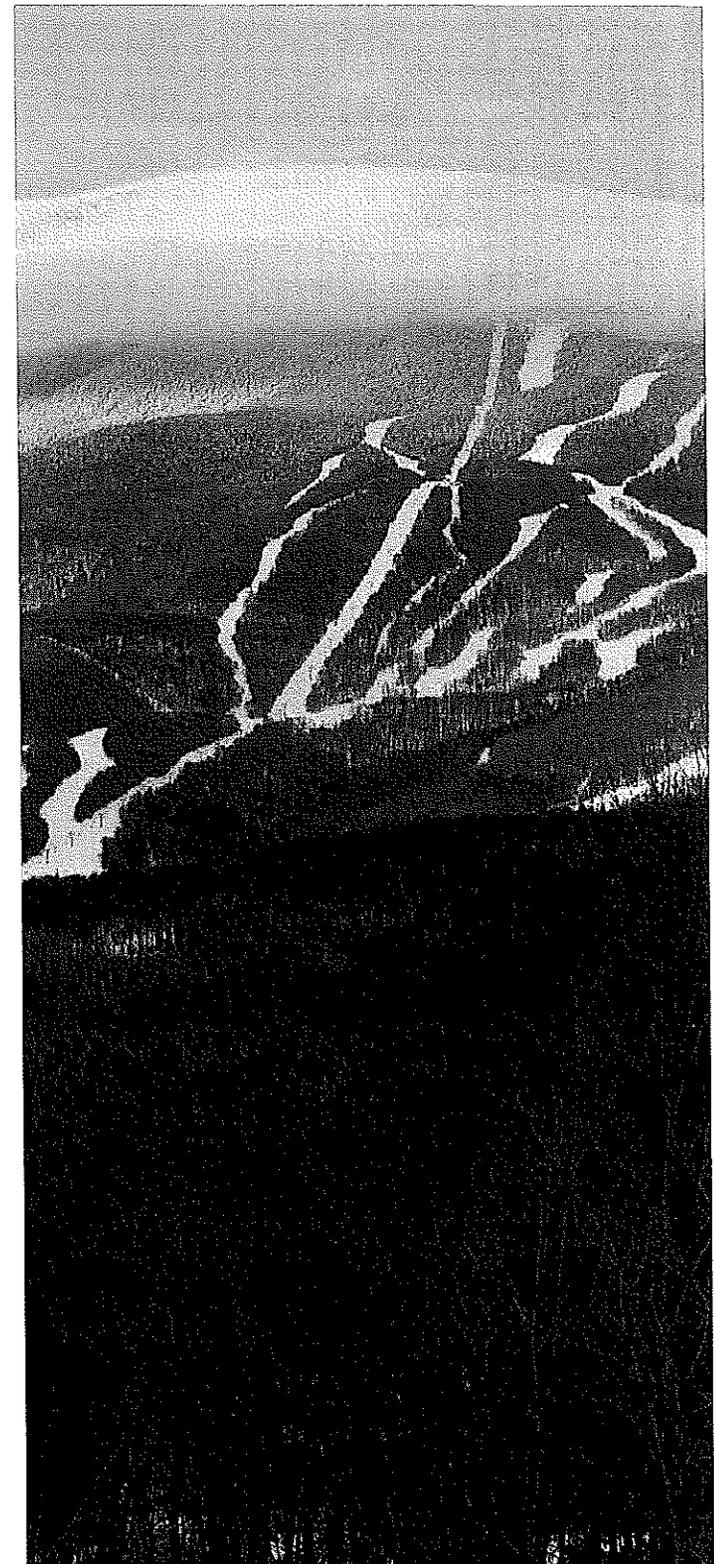
### 3.4.05 PUBLIC LANDS, TRAILS AND RECREATION RESOURCES

**Town Lands.** The Town of Warren owns a number of parcels that are available for public recreation including the:

- 28-acre Brooks Recreation Field and adjacent 100-acre Eaton Estate parcel that are currently used as a recreational area and also encompass the elementary school, town shed and a wastewater treatment facility.
- Park and bandstand near the concrete bridge in Warren Village.
- Cemeteries in Warren Village and East Warren.
- Old town garage site near the concrete bridge at the north end of Warren Village, the old town dump land, and a small lot directly across Main Street from the Town Hall.
- Former Coates property immediately west of the northerly intersection of Main Street and Route 100, which is currently used as a municipal gravel pit and possible eventual use as recreation fields or a resource area for a municipal water system.

**Other Conserved Lands.** There are nearly 2,000 acres of private land under conservation easement in Warren, not including the Green Mountain National Forest lands (see [Figure 20](#)).

**Green Mountain National Forest.** The Green Mountain National Forest currently owns approximately 7,200 acres in Warren (see [Figure 7](#)). Approximately 1,260 of those acres are leased under a special use permit to Sugarbush Resort for winter sports resort use and approximately 650 acres are part of the Breadloaf Wilderness, a component of the National Forest Wilderness system. The Green Mountain National Forest may purchase land within the approximately 12,800 acre National Forest Proclamation Boundary in the Town of Warren without specific Congressional approval.





The remaining federal acres are managed under the multiple use concept. At present they are chiefly used for hunting, fishing, hiking, logging, and primitive camping. The Long Trail, which runs along the peaks of the Lincoln Range, is maintained by the Green Mountain Club. Through conservation efforts, Warren Falls and Blueberry Lake have become part of the GMNF since the late-1990s.

**Public Recreation Facilities & Programs.** Brooks Recreation Field in Warren Village has been the primary recreation field for the school and public use in Warren since the school was built in 1972. The field is used for baseball and softball diamonds; a field for soccer, ultimate frisbee and rugby; a cricket pitch; a skateboard park; and tennis and pickleball courts. The field was expanded in 2004, primarily to provide space for the Warren Fourth of July vendors.

Riverside Park was created after a devastating flood in 1998 that destroyed three homes in the floodplain. It provides public access to the Mad River for swimming and boating and to the Mad River Path. The town also purchased a second small piece of property adjacent to the Covered Bridge in the Village.

The Warren Recreation Commission also sponsors children’s programs, including an annual Christmas theater presentation, a summer recreation program and gymnastics classes. The Catamount Trail offers cross-country skiing through the western part of town.

The Mad River Path Association’s (MRPA), mission is to build, maintain, support and conserve a system of continuous public pathways from Warren to Moretown. The completion of the path as a recreational trail and alternative transportation route is a goal of this Town Plan. Completed segments include:

- Warren Path, a wooded trail approximately one mile long that heads north from Brooks Field.
- The section from Riverside Park to the Sugarbush snowmaking pond
- The Kingsbury farm section.





**Private Recreational Facilities.** Sugarbush owns and maintains numerous trails and lifts, as well as other indoor and outdoor sports facilities. Two sports facilities are located in close proximity to the ski area and offer swimming, weightlifting, rock climbing and other gym-related activities. There are two cross-country ski touring centers in Warren. One center operates at the Sugarbush Airport in the winter and one operates near Blueberry Lake. Numerous horseback riding centers are located in East Warren. Tennis facilities are located the Sugarbush Health and Racquet Club, and the Bridges. Sugarbush Resort operates an 18-hole championship golf course.

**Other Forms of Recreation.** Fishing, swimming, canoeing, hiking, biking, and cross-country skiing ("bush-whacking") on both private and public lands is available throughout the Warren. Warren also helps fund the Skatium ice rink in Waitsfield.

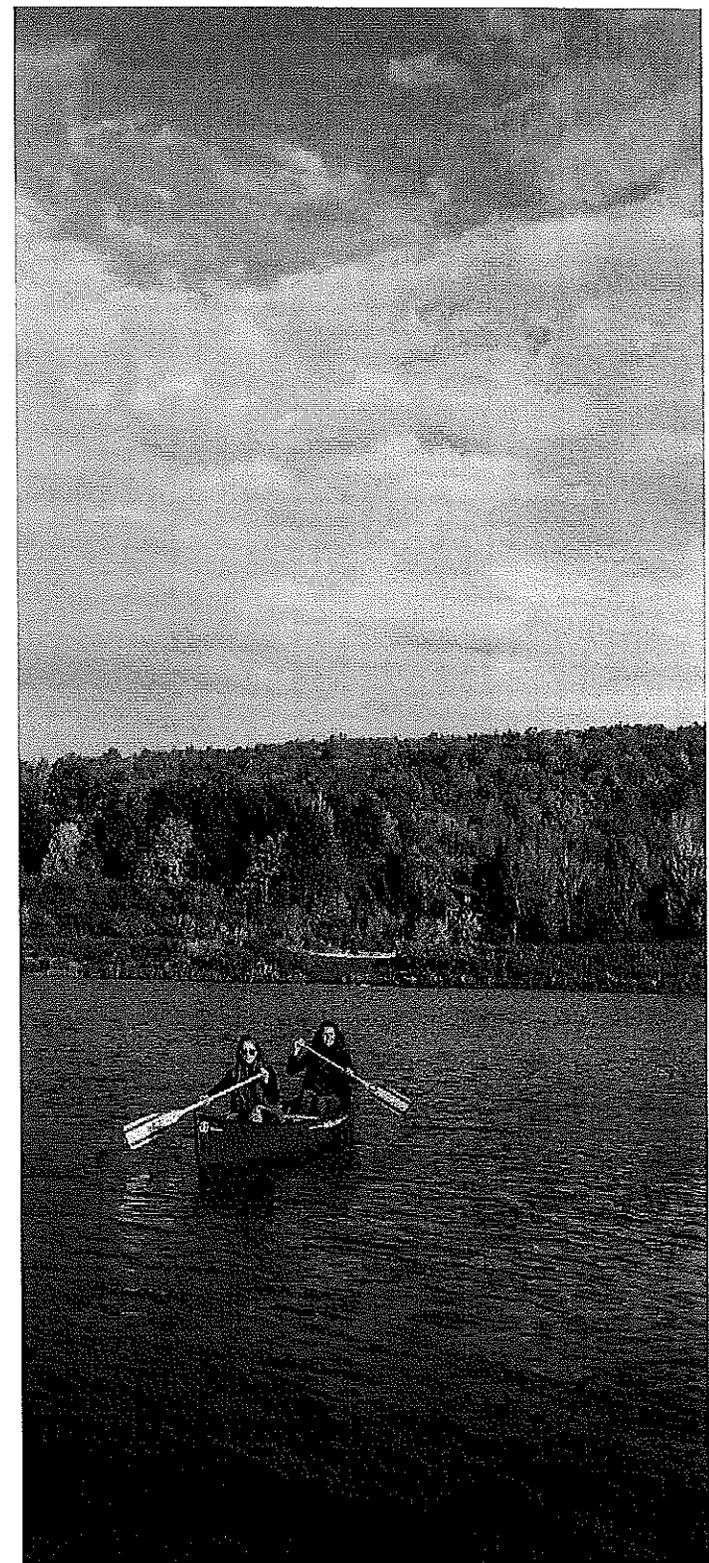
### 3.4.06 RENEWABLE ENERGY RESOURCES

**Solar Orientation.** The orientation and degree of slope determine the amount of solar radiation hitting a particular site. Through careful site planning and passive solar design, the amount of energy needed to heat, cool and light a building can be substantially reduced.

**Solar Energy.** The sun can be utilized in three main areas to reduce energy consumption: hot water loads; heating and electrical production; and food supply. The amount of energy savings will depend upon site and economic constraints. New construction can and should utilize such techniques.

**Wood Energy.** Wood is a plentiful resource and, with wise management, could supply an even more significant share of Warren's energy needs. It is important to note that wood burning may present safety and air quality issues. These issues may be addressed using caution, proper maintenance and the latest in wood heat technology. Warren may be susceptible to air pollution due to its geographic location surrounded by mountains.

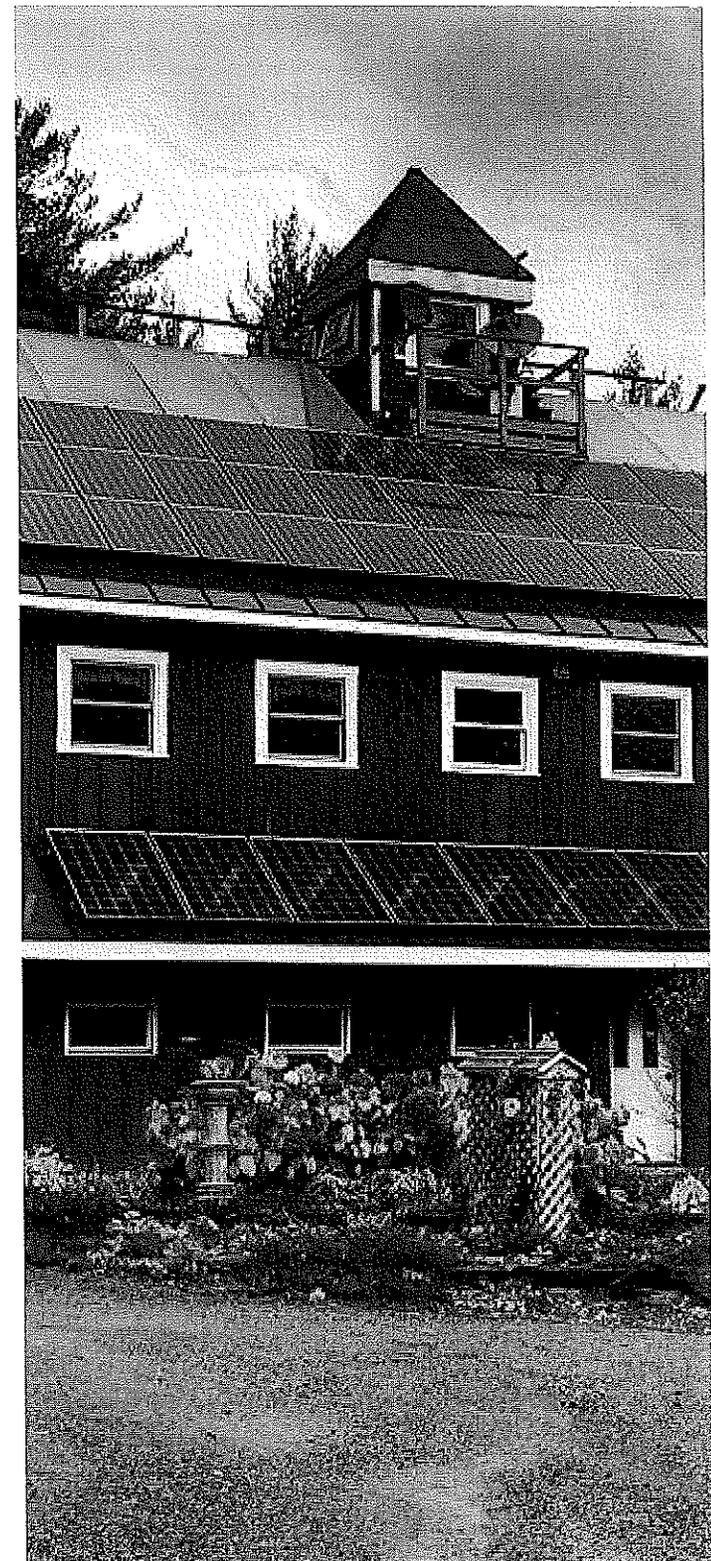
**Wind Energy.** The Lincoln Ridge is among the best wind sites in New England. However, most of this property is national forest. Small scale wind generation in the





Valley is possible in certain areas and various projects have been proposed. Given the ever-rising costs of continued reliance on fossil fuels, there is likely to be increased interest in developing wind projects in the Valley. While Warren encourages the use of solar and small-scale wind, a delicate balance must be sought in deciding the placement of solar and wind energy equipment.

**Hydroelectric Energy.** Large-scale hydro power development can severely impact aquatic life in rivers and streams. Impoundments cause unnatural increases in water temperature, flood upstream shore lands, cause siltation, isolate fish populations, block fish passage and often destroy salmonid spawning areas. Other negative aspects of large-scale hydro power development include the aesthetic implications of dams and impoundments as well as the possible impact on popular recreational pursuits, such as canoeing and fishing. Technological developments in small- and micro-hydro may present opportunities for new hydro power generation in Warren without the negative impacts of larger scale projects.





## 3.5 COMMUNITY INFRASTRUCTURE

### 3.5.01 TRANSPORTATION

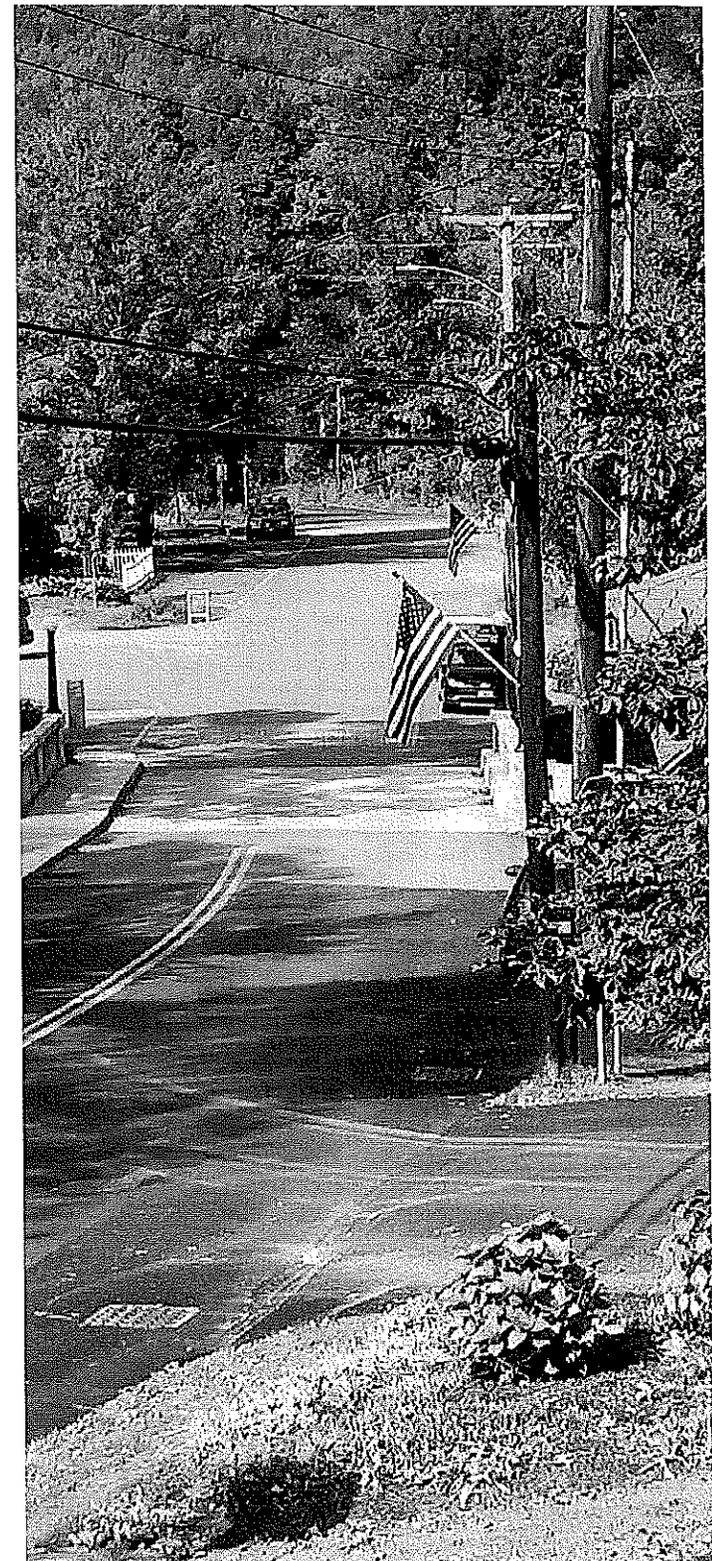
**Road Network.** The major traffic network in the Mad River Valley includes Route 100, Route 17, German Flats Road, and the Sugarbush Access Road and is referred to as ‘the loop’. The growth centers in the valley and in Warren are all served by these roadways. Focusing growth in the areas served by this network maximizes the existing public investment in infrastructure and avoid the need for costly new infrastructure.

Traffic volumes on Route 100 have not changed significantly in recent decades as reported by the Vermont Agency of Transportation. Those counts and estimates are not an accurate reflection of tourist traffic conditions in Warren during peak ski weekends or major events. During these periods, the ability of the loop to accommodate traffic can be strained. Options to address the capacity of the road network include:

- Expanding road and intersection capacity either by physically enlarging the traveled way, adding turn lanes, or adding traffic controls or lights;
- Slow the growth in traffic volume through the introduction of alternative modes (i.e. transit service) and/or restrictions on the use of motor vehicles;
- Reduce the speed of traffic using traffic calming measures; and
- Add new roads or intersections.

There are approximately 51 miles of roads in Warren, 44 miles of which the town owns and maintains (see [Figure 22](#) and the most recent [Town Highway Map](#)). Town roads are designated as Class 2, 3, 4, or trail. The town must maintain Class 2 and 3 roads so that they are negotiable year-round, under normal conditions, by a standard passenger car.

The town is not required to maintain Class 4 roads or trails. Reclassification of Class 4 roads would result in increased road maintenance costs. Trails are rights-of-way retained by the town for limited- or non-vehicular use and are not available for upgrading. Class 4 roads and trails provide critical trail and access opportunities and are a crucial link in many recreational corridors.



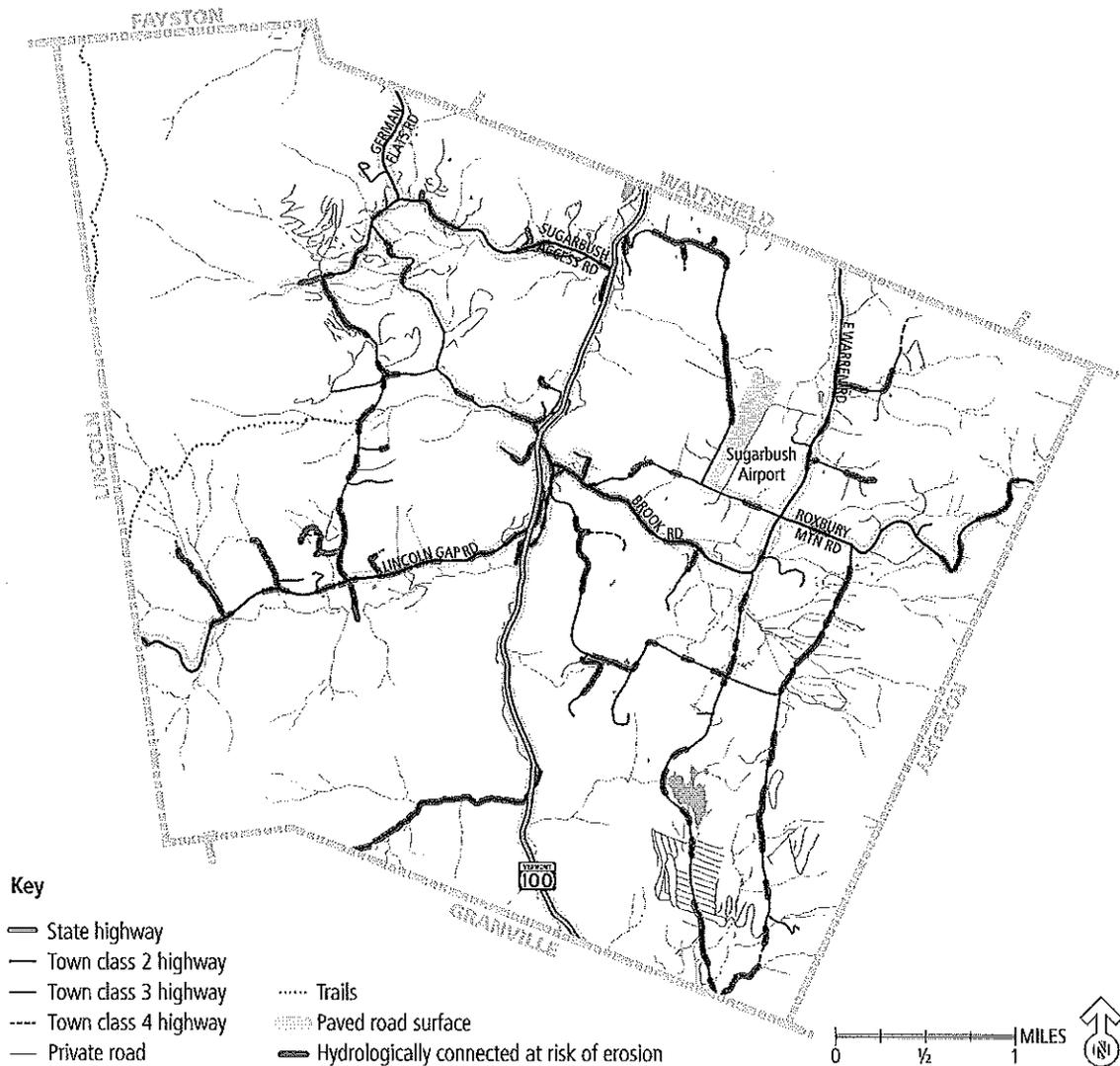


**Road Maintenance.** Road maintenance represents a substantial portion of municipal spending, so the demand for increased highway capacity resulting from both large-scale and incremental development can have a dramatic impact on the town's budget and local property taxes. Through capital budgeting and an active transportation planning program, in conjunction with neighboring towns, the town can anticipate highway needs and plan for them in an efficient and cost effective manner.

The town's Road Maintenance Ordinance requires public notice and a public review process before the town may make any significant changes in road maintenance. This policy was the result of the 2002 scenic road inventory (*see Rural and Scenic Character on page 46*).

**Bridges.** The character of Warren is closely tied to its geographic features and residents would like to see bridges maintained or built to enhance, rather than detract from, the town's rural character.

Figure 22. Transportation Map





Warren hired an engineering firm to conduct an inventory of all town-owned and maintained bridges as well as culverts greater than six feet in diameter in 2002. Each bridge or culvert was assigned a priority ranking for repair. The town has since been implementing the recommended repairs and replacements.

**Access Management.** The efficiency and safety of all town roads are directly affected by the frequency and location of points of access or curb cuts. The design of curb cuts also is important in terms of drainage and road maintenance. Consistent and comprehensive access management policies are necessary to balance the needs of motorists, pedestrians, bicyclists, and other users of the roadways system to travel in safety and with sufficient mobility.

**Traffic Calming.** Techniques to better control traffic speeds, enhance pedestrian safety, and improve the overall environment are commonly referred to as traffic calming measures. These measures include narrow vehicle traffic lanes, wider sidewalks, medians, on-street parking, roundabouts, gateways, splitter islands, plantings, street furniture and radar feedback signs. Major improvements to calm traffic in Warren Village were largely completed in 2017 (the Main Street Project, which included streetscaping, pedestrian-scale lighting, wayfinding signage and alternative street surfaces).

Traffic speed has also been a concern at the entrance to Sugarbush at Lincoln Peak. As a result the recent Lincoln Peak base area parking lot expansion, Sugarbush has constructed a gravel path from the intersection of Inferno Road, Village Road and the Sugarbush Access Road to the former Warren House Restaurant and a paved path along the Village Road to the intersection of Green Mountain Drive. This network of paths should be continued in future phases of base area development.

**Pedestrian and Bicycle Travel.** The existing road network, especially Route 100, serves as an important bicycle corridor. The Mad River Path network is a popular recreation trail (*see Public Lands, Trails and Recreation Resources on page 48*).

Some specific standards for access management include:

- Requiring a minimum sight distance at a driveway or street intersection;
- Limiting the number of driveways per lot;
- Requiring a minimum distance between driveways and a minimum distance between driveways and nearest intersection;
- Requiring access from a minor road, such as frontage/service road or a common internal street or secondary street for corner lots;
- Requiring shared driveways and/or cross connections to adjacent properties;
- Setting minimum and maximum driveway widths;
- Setting minimum driveway (throat) lengths and corner turning radius;
- Requiring left turn or right turn ingress lane for high traffic sites;
- Requiring a driveway turnaround area to avoid the need to back out onto the road;
- Requiring minimum area and/or bays for loading and unloading; and
- Requiring landscaping and buffers to visually define and enhance access points.



Another area of town frequently used by pedestrians and cyclists is the Golf Course, West Hill, Inferno, and Access Road 3 mile loop as well as travel from the Lincoln Peak base area to the Sugarbush Inn and condos. This poses a safety concern since none of these roads have sidewalks or paths and some are narrow and windy. To help alleviate the safety issue, Sugarbush Resort installed paths on property owned by the resort linking the base area to the Sugarbush Inn. Given that the resort does not own all of the property between the base area and the Sugarbush Inn there will be gaps in the path unless adjacent property owners participate in developing the path.

**Parking.** Warren provides a limited amount of public parking. As the Planning Commission continues to refine its plan for municipal facilities, it will continue to analyze the parking needs and opportunities in Warren Village.

In conjunction with the Lincoln Peak permitting process, Sugarbush received an air quality permit for approximately 2,200 parking spaces of which 1,625 have been constructed. The resort continues to promote use of the Mad Bus for transit between Valley destinations and provides its own parking lot shuttle system to limit traffic congestion at the Lincoln Peak base area.

**Travel Demand Management.** Traffic congestion is greatest during the peak ski season and several peak holiday events (4<sup>th</sup> of July, Labor Day and Columbus Day weekend). During the peak events it may be appropriate to implement a travel demand management program. A program could include public transit, ride share facilities, flexible-time for employees and skiers (i.e. promote morning skiing with a half-day morning ticket), pedestrian and bicycle facilities.

**Public Transit.** There have been multiple efforts and entities working to provide public transit in the Valley during the past two decades, but it remains challenging to maintain a financially-viable bus system year-round. As of 2017, transit service on the “Mad Bus” was available only during ski season. There are various other initiatives aimed at reducing vehicle trips through means such as car and van pools, bicycle sharing, and walking or biking to school.





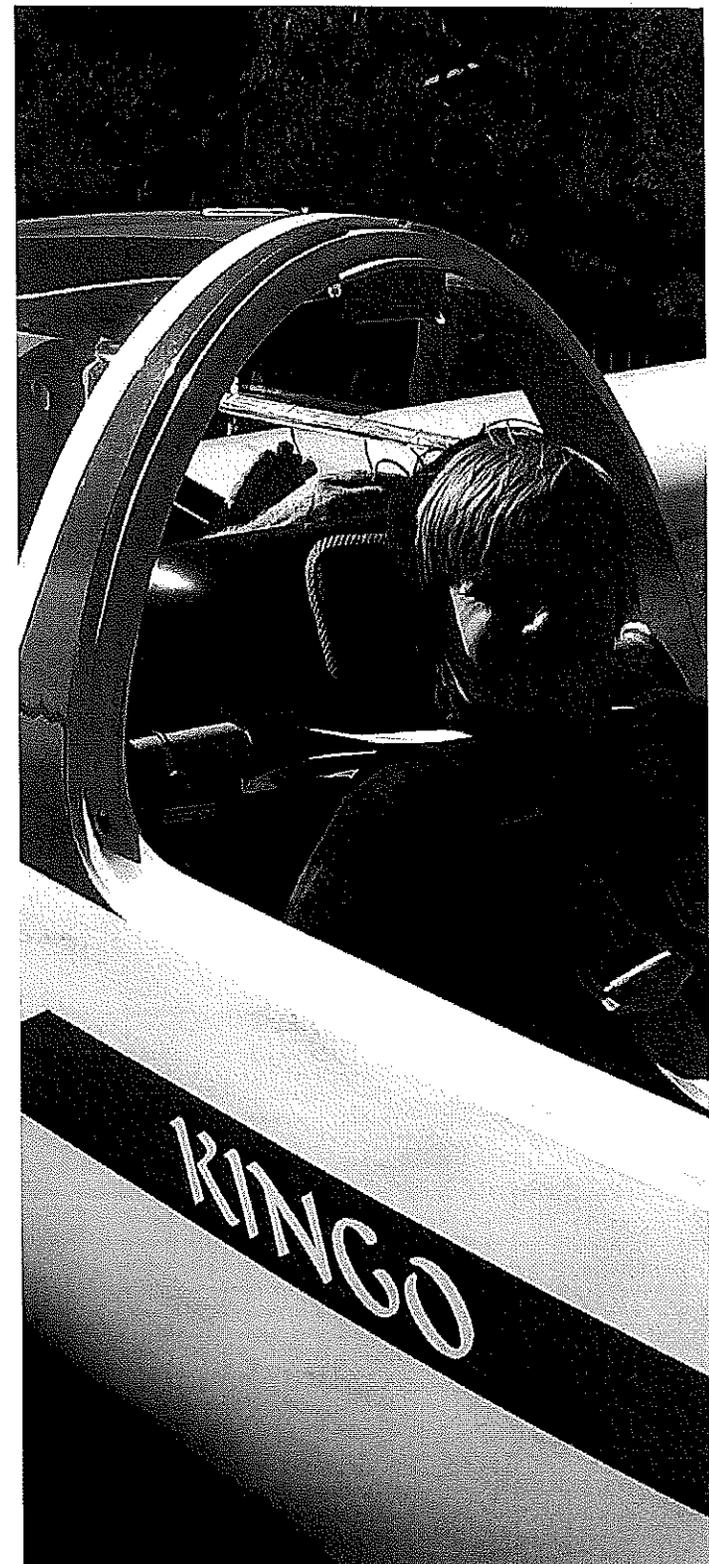
**Air Travel.** The Sugarbush Airport in Warren is privately owned by Granite Intersection, Inc., but is open to the public. The airport is located on the East Warren plateau with a single paved 2,700-foot runway with grass areas suitable for landing on either side. Jet fuel is not available, but aviation fuel for piston aircraft is. There are a few outside tie downs for local and visiting small aircraft, and a limited number of privately owned hangars house local aircraft. A larger hangar provides limited storage and occasional maintenance services to other aircraft. The airport is leased to Ole's Cross Country ski operation during the winter months, and to the Sugarbush Soaring Association, which offers glider flight instruction and scenic rides, for the remainder of the year.

Interstate and international flights are available within an hour of Warren at the Burlington International Airport. Small private planes can also land year-round at the Edward F. Knapp Airport in Berlin and the Burlington International Airport.

**Regional Coordination.** It is important that local land use and transportation decisions are considered in the context of the regional transportation network that serves Warren. Skier and other tourist traffic visiting Warren affects neighboring towns. In addition to working with neighboring communities to plan for alternative transportation modes, such as public transit, it is important to consider local highway matters in a regional context. Warren does this through ongoing participation and support for the Mad River Valley Planning District's and Central Vermont Regional Planning Commission's (CVRPC) transportation planning efforts.

### 3.5.02 **SOLID WASTE**

Warren is a member of the Mad River Valley Solid Waste Alliance, a six-town district that includes Duxbury, Fayston, Moretown, Waitsfield and Waterbury. The district prepares and adopts a Solid Waste Management Plan on behalf of its member municipalities, which is adopted by reference into this plan as most recently amended and approved by the state. A regional transfer facility on Route 100 in Waitsfield serves as the solid waste disposal site for Valley residents, as well as a place to recycle materials. Presently, solid waste is collected and trucked by private haulers for disposal outside the region.





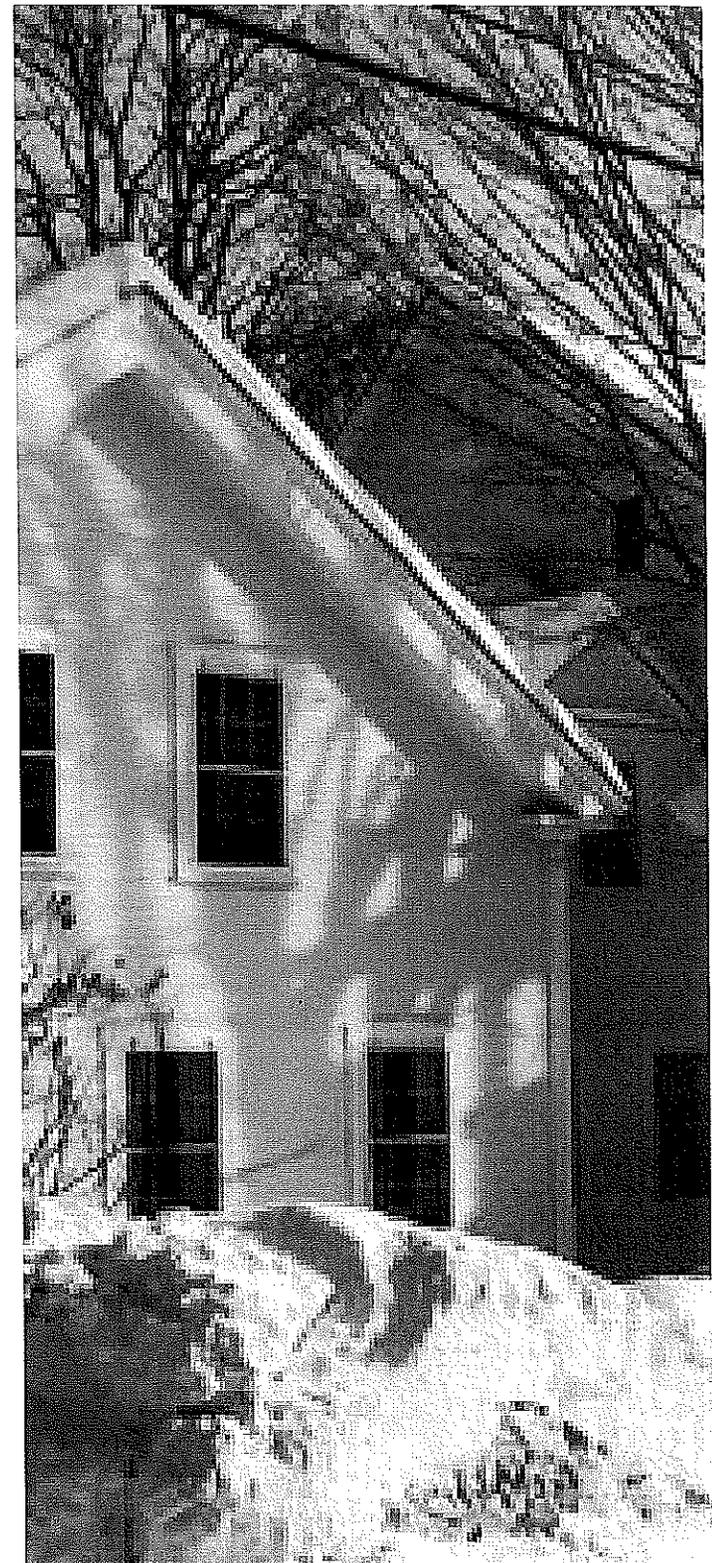
### 3.5.03 WATER AND SEWER

**Private Wells.** Private wells are used to supply drinking water in most areas of Warren. Generally, the quantity and quality of groundwater provided by private wells is excellent (*see Mineral and Groundwater Resources on page 43*) and does not pose a constraint on development potential.

**Sugarbush Water Supply.** The major public water system in Warren is owned and maintained by a subsidiary of Sugarbush Resort, the Mountain Water Company, and serves the needs of Sugarbush Resort and Sugarbush Village. The system:

- Has approximately 650 connections (approximately 2,300 transient guests and 100 residents) and has the capacity for approximately 65 additional connections.
- Is supplied with water from Clay Brook that is filtered and chlorinated (180,000 gallons per day treatment capacity). The primary supply is supplemented by 14 drilled wells with a combined average permitted flow of approximately 92,000 gallons per day (gpd).
- Has a maximum rate of withdrawal of approximately 384,000 gpd under the its current state permit.
- Has a series of six reservoirs providing 394,000 gallons of storage.
- Is divided into 3 service zones due to the topography of the area.
- Has an elaborate monitoring and withdrawal control system to ensure compatibility between domestic demand and the environmental needs of Clay Brook, which was a condition of the system's Act 250 permit.

**Warren Village Water Supply.** The potential for groundwater contamination in Warren Village, which is not served by a municipal water system, has been an identified concern for many years. Prior studies have found that the groundwater supply is susceptible to contamination from multiple sources, including septic systems, road salt and chemical spills. The community wastewater disposal system constructed in 2005 reduces the potential for contamination of drinking water supplies in Warren Village.





**Other Public Community Water Supplies.** Other community water supplies serve individual condominium complexes. Federal clean water standards require a source protection plan for each community system to guard against contamination. These plans should be considered when developing local land use regulations to ensure that water supplies are not imperiled by future development activities within recharge areas.

**Snowmaking.** Sugarbush Resort operates a snowmaking system that draws water from the Mad River and pumps it to a storage pond adjacent to Route 100 at the Waitsfield/Warren border. The main snowmaking line running between the storage pond and the Lincoln Peak base area also provides water for fire suppression via hydrants serving portions of the Sugarbush Access Road, the German Flats Road, the Maples Condominium and Colony subdivision.

**Private Septic Systems.** Most areas of town rely on private septic systems to treat wastewater. The ability of soils to adequately treat wastewater is a constraint on development in some areas of town (see [Section 3.1.05](#)).

**Sugarbush Wastewater Disposal.** Sugarbush Resort has two wastewater treatment systems: Mountain Wastewater Treatment, originally constructed in 1970, and Lincoln Peak Wastewater Treatment, constructed in 2006.

The Mountain Wastewater Treatment system:

- Provides wastewater services to the Sugarbush Village condominiums and private residences, the Sugarbush Village businesses, Snow Creek condominiums, the Sugarbush Health and Racquet Club and several of the Lincoln Peak base area buildings.
- Has a treatment capacity of 168,000 gallons per day (gpd).
- Uses aerated lagoons, chemical addition, filtration, and chlorination to produce an effluent of tertiary treatment quality (BOD and suspended solids are less than 10 parts per million).
- Discharges treated effluent into two leach fields adjacent to Rice Brook. Water flow in Rice Brook varies seasonally, so the amount of effluent discharged into the leach field is controlled to match the flow in the brook.





- Is grandfathered under the Indirect Discharge Rules of the Agency of Natural Resources (ANR).

The Lincoln Peak wastewater treatment system:

- Provides wastewater disposal services for the Clay Brook residences and hotel and was designed with disposal capacity for future Lincoln Peak base area development.
- Has a treatment capacity of 66,000 gpd.
- Uses sequencing batch reactors (SBRs) followed by filtration and ultraviolet disinfection. The SBR process is designed to achieve nitrification, denitrification and biological phosphorous removal.
- Discharges the tertiary treated effluent to a series of dual alternating leachfields with a disposal capacity of 79,210 gpd.

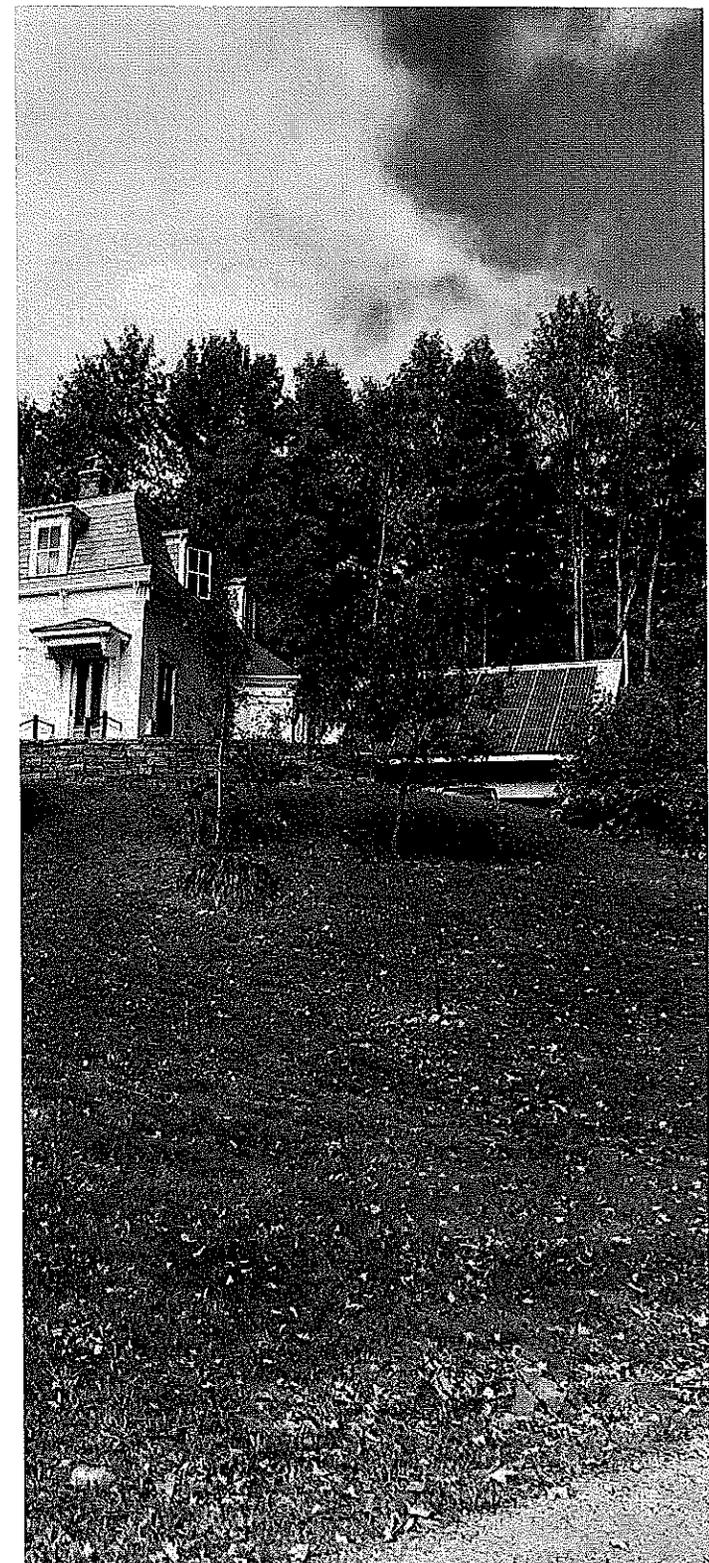
**Warren Village Wastewater Disposal.** Wastewater disposal and groundwater protection in Warren Village were issues of significant public concern and repeated study for many years. The town began to seriously pursue alternatives to on-site septic systems in the village in the mid-1980s. After a series of incremental steps towards a municipal wastewater, the Warren Village system was completed in 2005. The Warren Village system:

- Serves approximately 65 users.
- Requires the town to conduct down-gradient monitoring at Brooks Field to ensure continued compliance with the Indirect Discharge Permit from the state.
- Operates in accordance with the town's adopted Sewer Ordinance, which establishes allocation priorities.

### 3.5.04 ENERGY

**Electricity.** Green Mountain Power (GMP) provides electricity in Warren. A 34.5 kV transmission line feeds the local distribution system, which is a looped line with sources in Montpelier and Middlesex. The capacity of the electric grid is summarized below:

- The capacity of the two substations, Irasville (#39) and Mad Bush (#38), serving the Valley has 10 MVA reserved capacity or about 45% of current load.





- The 3310 line that feeds the #39 and #38 Substations has 24.43 MVA of reserve capacity, but this must serve more than the Mad River Valley.
- The existing capacity at the #39 Irasville substation is 2.5 MVA (this is 23.8% of the available capacity) and at the #38 Mad Bush is 4.5 MVA (this is 22.5% of the available capacity) based on load data gathered from 1999 to 2009. This capacity is based on load being applied directly at the substation. This does not account for individual circuit loading, i.e. it would probably not be possible to put 4.5 MVA of load at the end of one of the Mad Bush circuits, but the substation transformer would be able to handle that amount of load.
- GMP was not planning any transmission or distribution improvements that would significantly increase the capacity of the system as of 2017.

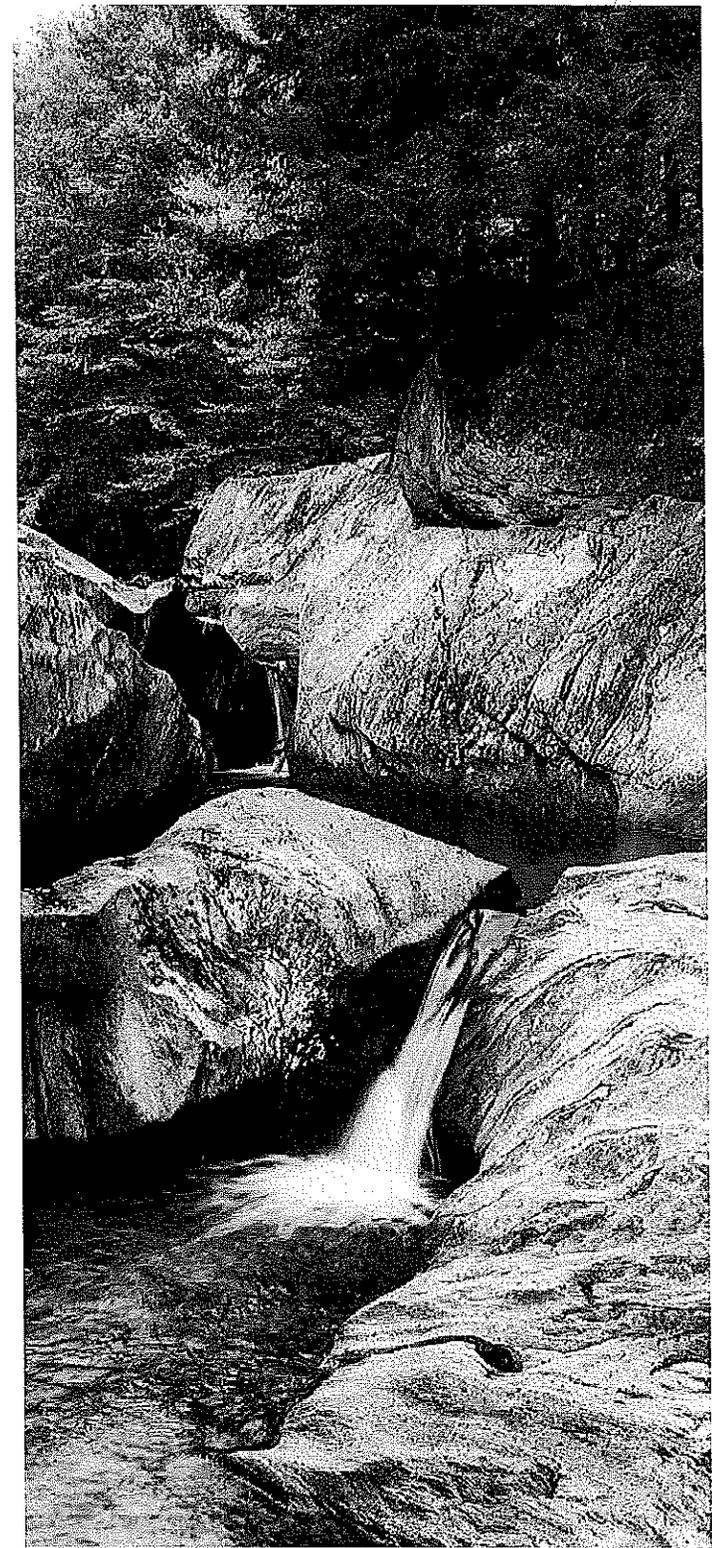
### 3.5.05 COMMUNICATIONS

**Phone Service.** Waitsfield and Champlain Valley Telecom provides land-line phone service, as well as high-speed internet, in Warren. Various national companies provide cellular telephone service in Warren. Verizon Wireless, AT&T Wireless, SPRINT and Nextel maintain wireless facilities in the Sugarbush Village area.

Warren’s Land Use and Development Regulations include standards for construction of wireless telecommunication facilities. As of 2017, however, applicants for wireless telecommunications facilities could choose to have their projects approved under the state Section 248 process rather than under municipal zoning.

**Internet Service.** Internet services are available through a variety of local and national providers, including Green Mountain Access (the Internet subsidiary of Waitsfield and Champlain Valley Telecom). Green Mountain Access offers high-speed Internet services throughout Warren with fiber-optic service available in some areas of town.

**Cable Television.** Cable television service is available through Waitsfield Cable in most areas of Warren. There are three local origination channels operating in the Mad River Valley, Waitsfield Cable (channel 11), and Mad River Valley Television (channels 44 and





45), a local public access station which offers local programming, including televised events, public meetings, and other content of interest to Valley residents.

**Newspapers.** The Mad River Valley is served by two daily Vermont newspapers, the Gannett Corporation-owned Burlington Free Press, which provides very limited coverage of local events, and the Barre-based Barre-Montpelier Times Argus, which provides regional coverage of significant events and issues. The Valley Reporter is a weekly newspaper based in Waitsfield that provide coverage of local news and events, and is designated as Warren’s newspaper of record for the publication of official notices and warnings.

**Radio Stations.** Many radio stations from Burlington and surrounding communities can be picked up in Warren. WMRW-LP, Warren (94.5 FM) is a 100-watt (low power) all-volunteer, noncommercial, community radio station operated by Rootswork Inc. and based at the East Warren Schoolhouse.

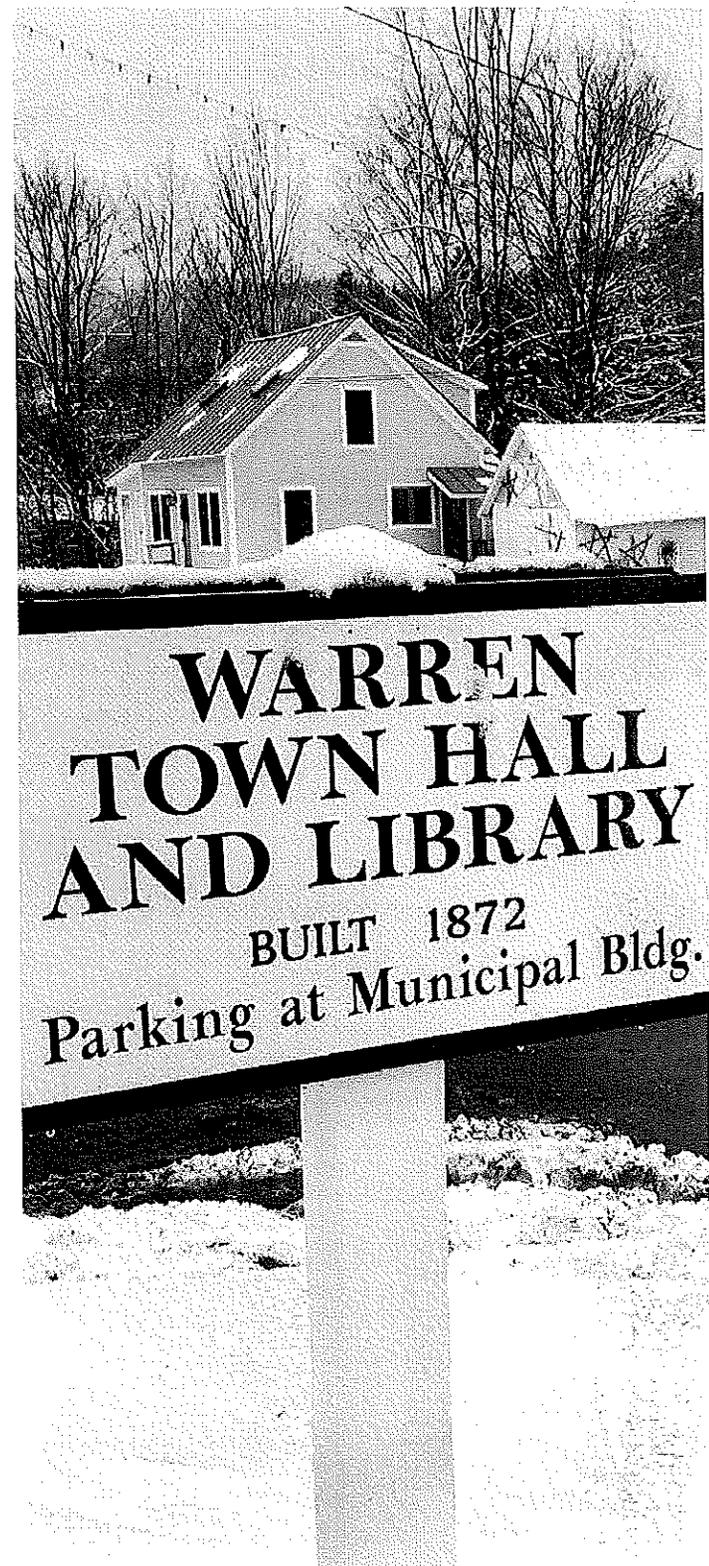
### 3.6 **COMMUNITY SERVICES**

#### 3.6.01 **TOWN BUILDINGS AND LAND**

Warren owns nine public buildings as described below. Warren has an adopted Municipal Facilities Master Plan, which sets forth detailed recommendations for siting, using, expanding and improving the town’s facilities. That 2007 Master Plan is adopted into this Town Plan by reference.

The town maintains all of the buildings listed below except a portion of the old East Warren School and the Warren United Church. That maintenance is funded through property taxes, rent and endowments.

- Municipal Building provides office space for town staff and has a secure vault for town records and other official documents.
- Town Hall is used for meetings, parties and other presentations. The second floor of the Town Hall is rented for dances, aerobics classes, Grange meetings, and other gatherings. The





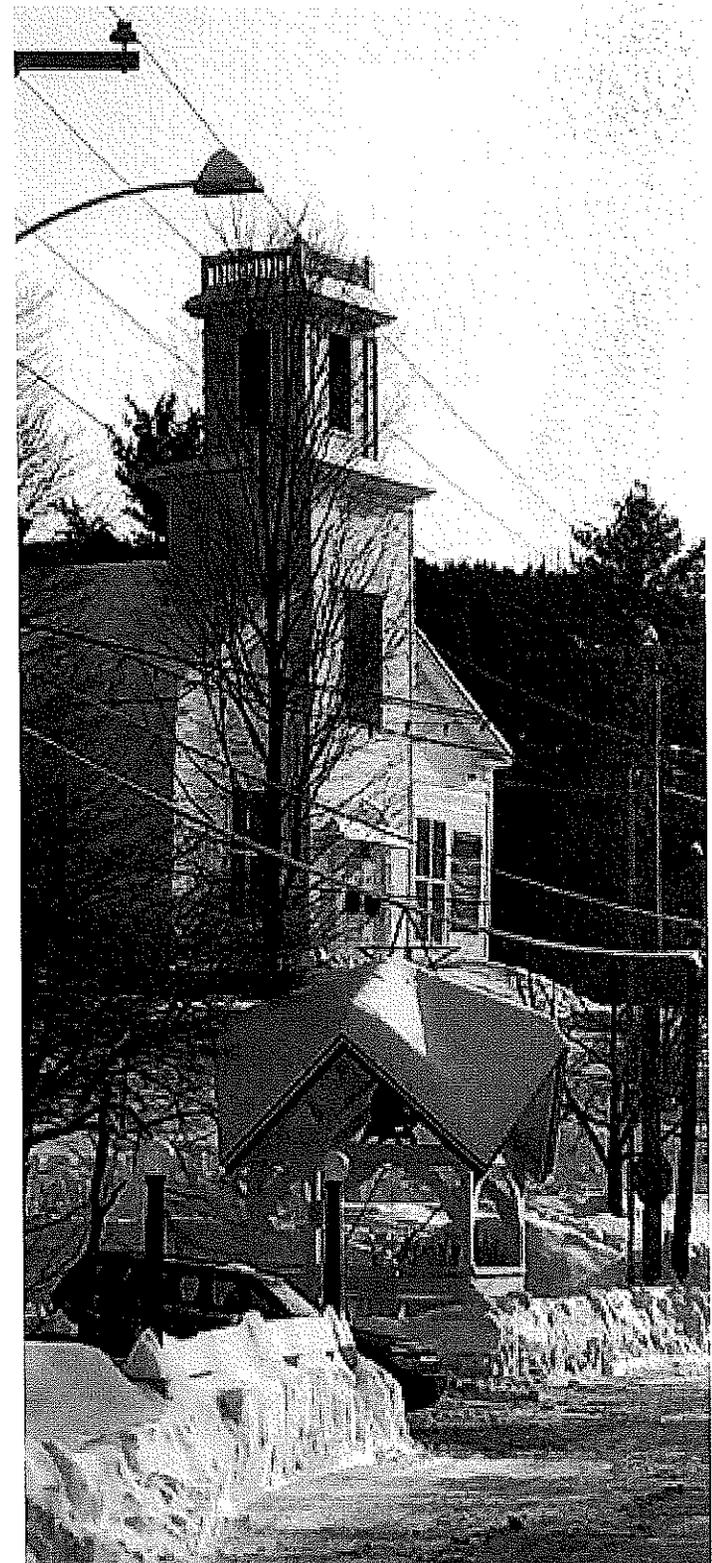
basement dining room and kitchen accommodate 150 people. An elevator was installed in 2008, making all floors of the building fully accessible. It also houses the Warren Public Library (*see Civic Facilities and Organizations on page 63*).

- Town Garage (Shed) located on School Road in Warren Village has many identified deficiencies and the preferred alternative is to relocate the facility out of a village residential area and to a site with direct access to Route 100. The town should actively seek alternative sites. Potential re-development opportunities for the existing site include development of six to ten units of affordable housing. A Phase II Environmental Assessment of the existing site was completed in 2008 and showed that there were no environmental concerns which needed to be remediated and that the site would be suitable for residential development.
- Old East Warren School located at the Roxbury Mountain Four Corners is currently being leased and maintained by Rootswork, a local, not-for-profit educational organization dedicated to promoting sustainable agriculture and sustainable communities. The downstairs of the building currently is sub-leased to the East Warren Community Market, which offers a broad selection of sustainably grown, local and / or organic goods.
- Ruby Blair / Historical Society Barn
- Warren Fire Station (*see Public Safety on page 64*)
- Fire Station at Sugarbush (*see Public Safety on page 64*)
- Warren United Church

### 3.6.02 TOWN GOVERNMENT

**Administration.** As of 2017, Warren had 10 full-time and 9 part-time employees (including the Library employees). The Town Clerk and Treasurer are full-time, elected positions responsible for managing the office, town records, and accounts.

Town government remains heavily reliant on citizen volunteers. Warren is governed by a five-member Selectboard. Warren also maintains a 7-member Planning Commission, a 5-member Development Review Board, a 5-member Conservation Commission, a Cemetery Commission, a Library Board, a Recreation Commission, and additional groups and committees who spend thousands of hours each year in community service.



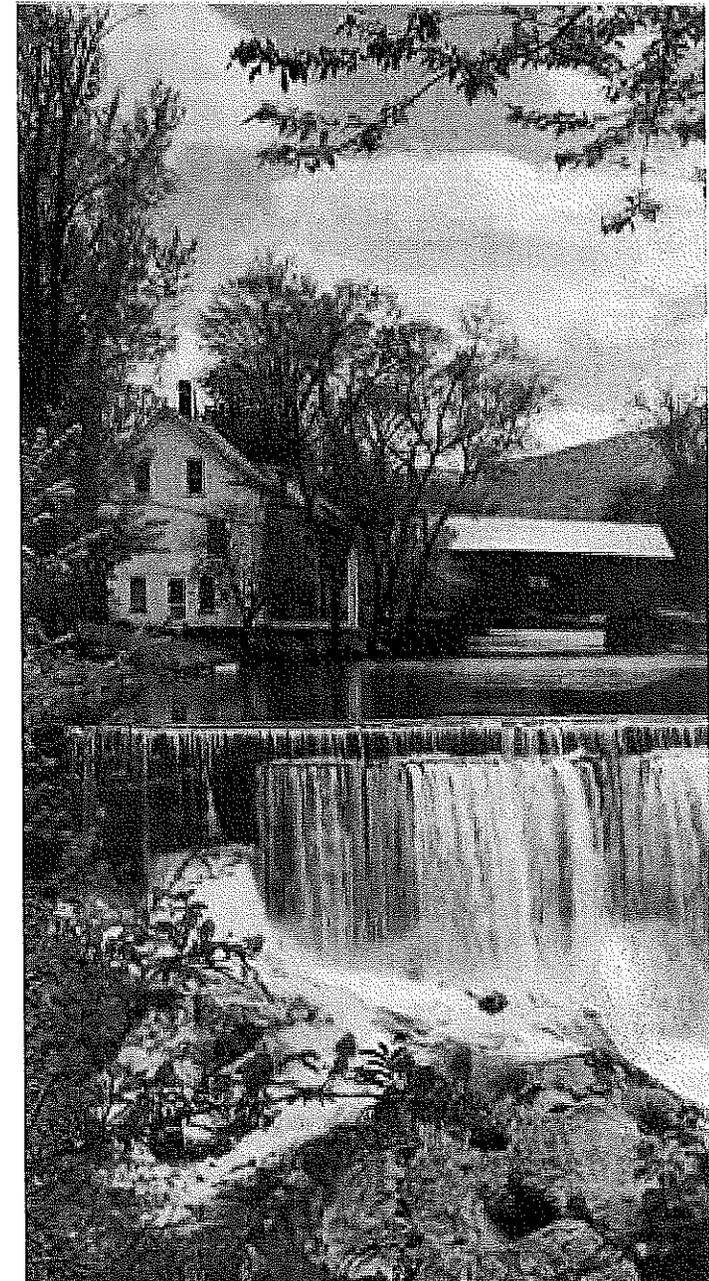


**Cost of Government.** The cost of government has grown as Warren has equipped itself to respond to sophisticated demands and has embarked upon the replacement of its equipment, facilities, and structures. Warren has a capital budget and program to project and prioritize capital expenditures (one-time, non-recurring major costs for equipment, land purchase or construction) over a six-year period. This allows scheduling such expenditures and structuring their financing to avoid a sudden, unanticipated increase in the tax rate. Assuming that growth in operating expenditures is spread out, either through timing, financing, or withdrawals from accumulated reserve accounts, the year-to-year fluctuation in expenditures should not be extreme. If, however, expenditure growth should exceed growth in the Grand List and other sources of revenue, the tax rate will rise.

3.6.03 **CIVIC FACILITIES AND ORGANIZATIONS**

**Warren Public Library.** The Warren Public Library occupies space in the Town Hall, which was renovated in 2009 and furnished with locally made bookcases, tables and computer stands. Circulation and foot traffic at the library have increased since 2009. The library still has a long-term goal of finding and creating a new, independent, permanent home.

The library is open 31 hours a week and is operated by one librarian, one children’s librarian, two staff members, and 14 volunteers. Warren participates in the state library programs and the state inter-library loan system. Patrons can search the card catalog, renew and reserve library materials online. The library offers a number of programs, including a story hour for pre-school children, a summer reading program for school-age children and occasional lectures and book discussions for adults. The library provides both public wi-fi and public access computers. The Vermont Department of Libraries publishes an [annual report](#) that provides detailed statistics about the library’s collection, programming, staffing, budget and usage.





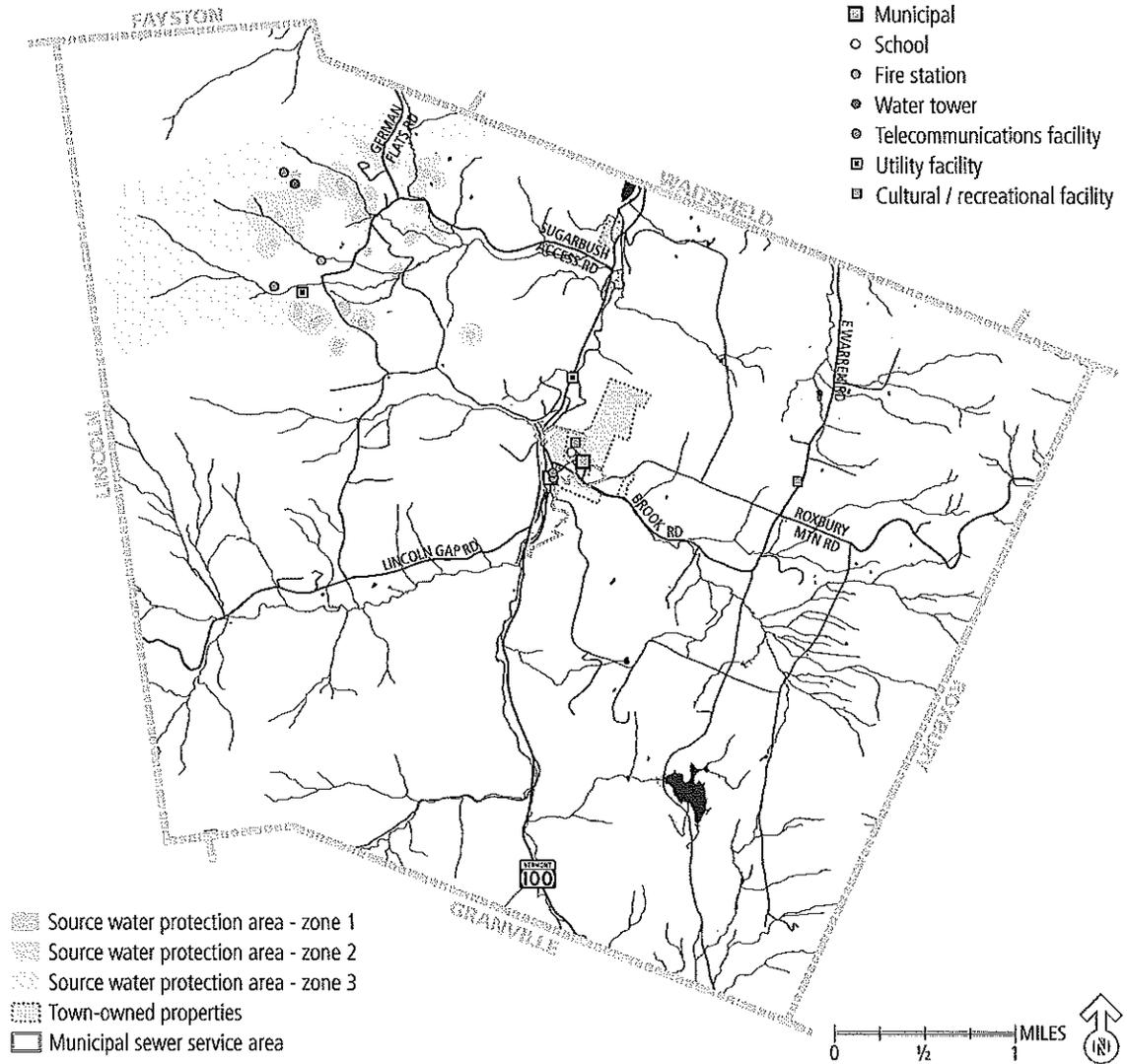
3.6.04 **PUBLIC SAFETY**

**Warren Fire Department.** The Warren Volunteer Fire Department had an active membership of 31 firefighters in 2017. Fire Department facilities include a four-bay station house and meeting room in Warren Village and a two-bay station house at Sugarbush Village. Warren participates in a mutual aid program with Waitsfield and Moretown, making their personnel and equipment available when needed.

With its own equipment, the Fire Department can provide a steady supply of water to a fire 2,000 feet by road from a roadside water source, such as a stream or pond. The availability of mutual aid equipment extends this range to about 3,000 feet with pumpers relaying at 1,000 foot intervals. Beyond these distances fires must be fought by the tanker load from the nearest water source. Available ladders and water pressures extend the maximum height at which a fire may be controlled to 50 feet above grade.

The Fire Department takes an active role in reviewing development

Figure 23. Utilities and Facilities Map





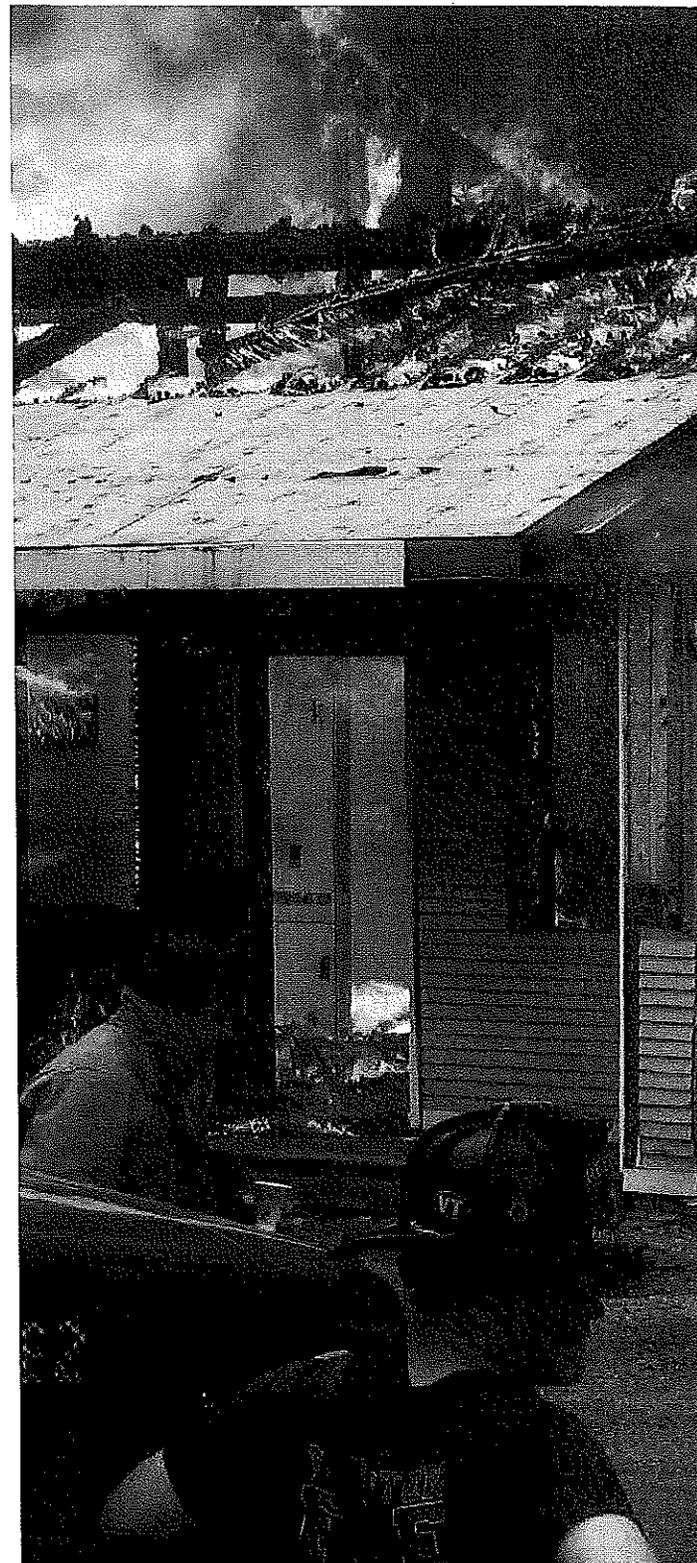
proposals to ensure adequate fire protection and has identified the following needs/ issues as development proceeds in Warren:

- The water line and fire hydrants will need to be extended as development continues further down Golf Course Road.
- New dead-end roads are required to have a minimum turning radius of 30 feet to accommodate emergency service vehicles.
- Multi-story construction may require additional equipment.
- Fire ponds with gravity-fed hydrants and sprinkler systems may be required in rural areas.
- A hydrant system using larger bodies of water at high elevations may be needed if residential development continues in rural areas.

**Police Protection.** As a resort community, Warren faces particular public safety concerns. During the ski season, increased traffic control is needed. During the off-season, unoccupied seasonal dwellings are subject to vandalism and burglary.

The Vermont State Police serve as the primary law enforcement agency in Warren. The nearest State Police station is in Middlesex. In addition, Warren contracts with the Washington County Sheriff's Department for traffic enforcement. Sugarbush also has an annual agreement with Washington County Sheriff's Department to assist with traffic control during the ski season and special events.

**Mad River Valley Ambulance Service.** The Mad River Valley Ambulance Service (MRVAS) provides emergency medical care in Warren from their facility in Waitsfield. MRVAS maintains two fully equipped ambulances and a rescue/extraction vehicle (not used for transport) that carries equipment. MRVAS had a volunteer staff of 60 people in 2017, many of whom had advanced emergency medical care training. MRVAS is funded by a combination of subscriptions, donations and fees for service. Current levels of funding and facilities are adequate to meet the demand for service.





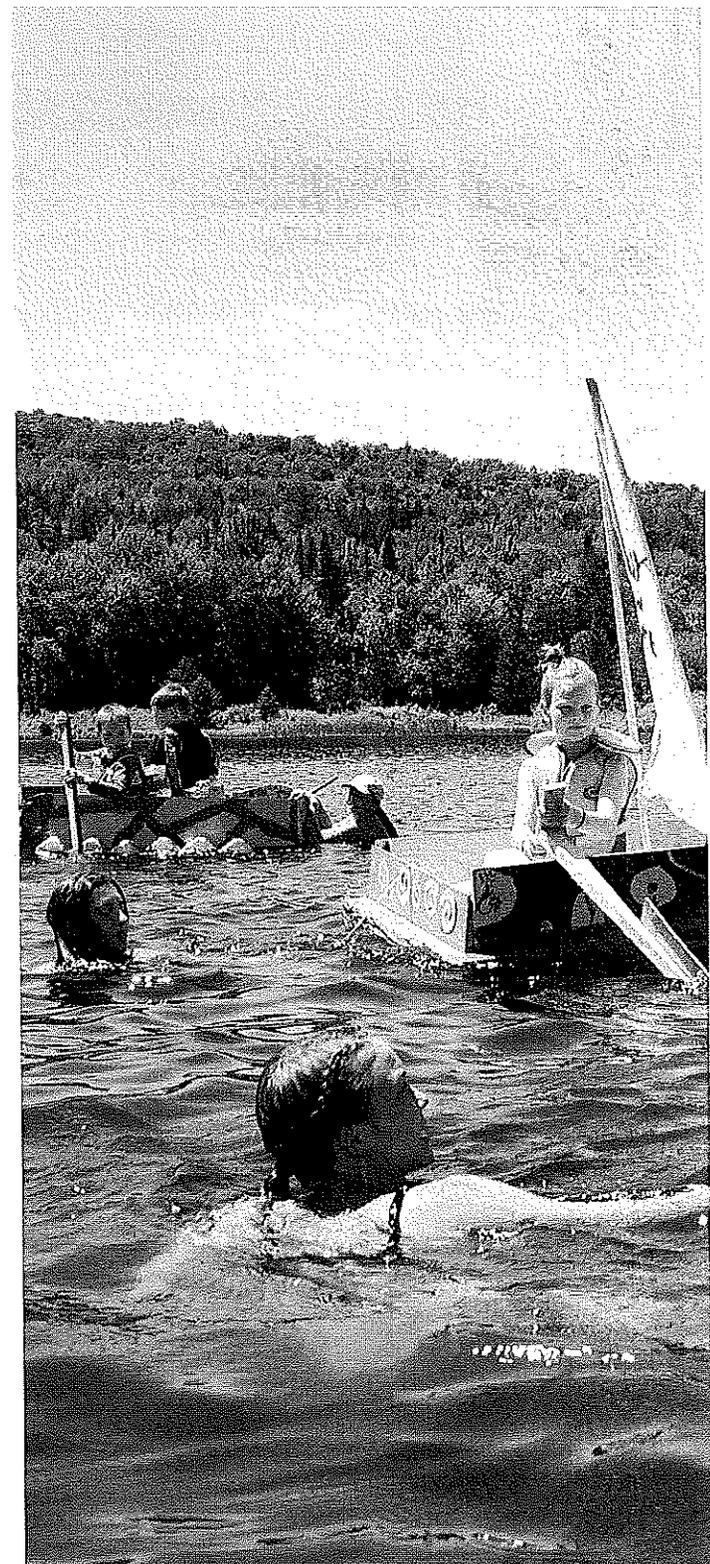
### 3.6.05 HUMAN SERVICES

**Health Care.** There are limited health care facilities in Warren. A first-aid station located at Lincoln Peak provides treatment for skiing-related injuries during the ski season. The UVM Health Network CVMC Family Medicine clinic provides primary care in Waitsfield. Warren residents also have access to dental services and a pharmacy in Waitsfield. Other medical services are available to Warren residents include:

- Hospital treatment is available at Central Vermont Medical Center in Berlin, Gifford Memorial in Randolph, Fletcher Allen Health Care / University of Vermont in Burlington and the Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire.
- Central Vermont Home Health and Hospice, which offers home health care, homemaker service, hospice services, and child birthing classes.
- Vermont Department of Health, which sponsors programs such as Well Child clinics and nutritional programs.
- Washington County Mental Health, which provides 24-hour emergency service, out-patient clinic, substance abuse programs, job placement, day programs, day hospital and resident programs.

**Senior Services.** Mad River Valley Senior Citizens (MRVSC) coordinates and provides services for the older citizens of Fayston, Moretown, Waitsfield and Warren. In 2017, MRVSC had approximately 50 active members. MRVSC operates Evergreen Place, a shared housing and senior center in Irasville, from which it provides a number of services including a meals program.

**Child Care.** Most families in Warren lead lives that require full- or part-time child care. The accessibility, affordability and quality of child care affects parents' ability to enter the workforce, be productive while at work and remain employed. Childcare programs available in Warren include: programs for preschool children and after-school programs for students from kindergarten through 6th grade based at the Warren Elementary School, and the Sugarbush Day School. There were no licensed in-home childcare providers in Warren in 2017. The Vermont Department of Children and Families maintains an online child care directory.





### 3.6.06 EDUCATION

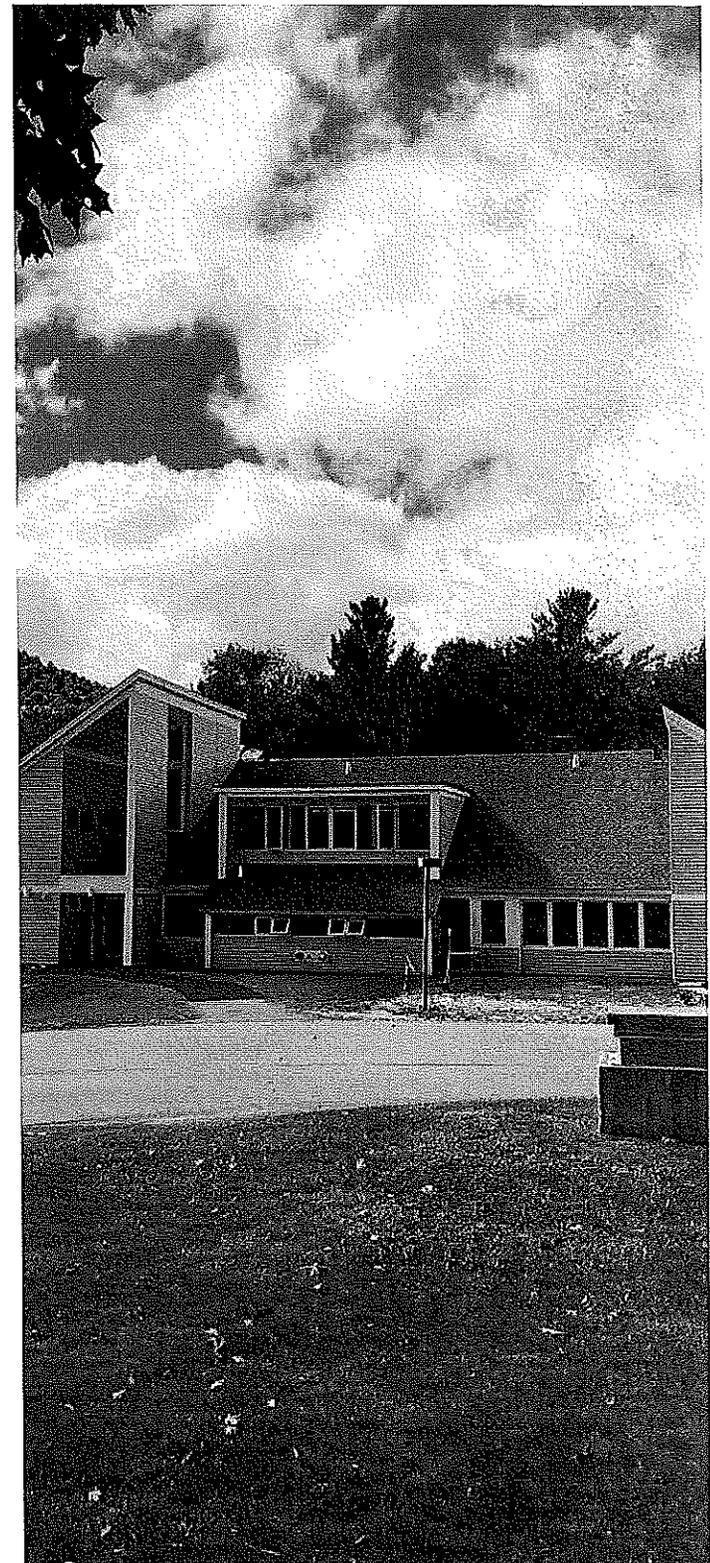
Warren is part of the Harwood Unified Union School District with the towns of Duxbury, Fayston, Moretown, Waitsfield, and Waterbury. Warren students in pre-K through grade six attend the Warren Elementary School in Warren Village. Those in grades seven through twelve attend Harwood Union Middle and High School in Duxbury.

**Warren Elementary School.** The Warren Elementary School at Brooks Field has a capacity of up to 200 pupils, depending on age configuration. There were 175 students in pre-K through grade 6 enrolled in the 2016-17 school year. The school was originally constructed in 1972 with various improvements made over the years.

**Harwood Union Middle and High School.** The total enrollment at Harwood Union Middle and High School was 654 students during the 2016-17 school year. The core facility of the building (cafeteria, gymnasium, auditorium, etc.) is designed for 1,000 students.

**Vocational Training.** High school students and adults seeking continuing education have access to vocational training at the Central Vermont Career Center in Barre. Harwood Union School also provides a limited number of vocational programs on site.

**School Costs.** School enrollment is only one factor of many that drives the cost of education. School funding in Vermont is based on a per student formula, but lower enrollment does not reduce operation and maintenance costs. Other costs, such as health insurance, continue to increase significantly as well.





## 3.7 LAND USE AND DEVELOPMENT

### 3.7.01 INTRODUCTION

A primary purpose of land use planning is to balance the legitimate interests of the community, as expressed through the planning process, with the rights and expectations of individual landowners. Warren's future land use plan is based on the careful consideration of the town's traditional settlement patterns and historic resources; its rural character and unique sense of place; the distribution of natural resources and physical features; the location and capacity of public services, facilities and the transportation network; the community's housing and economic needs; and, most importantly, the goals, objectives and strategies related to each of those considerations.

### 3.7.02 CURRENT LAND USE

Despite the town's transformation from a rural town to a resort community, nearly 85% of the town is forested. There remains some active farmland on the East Warren plateau and along the Mad River. Concentrated development is located at the base of Lincoln Peak, in Warren Village and around the intersection of Route 100 and the Sugarbush Access Road. Low-density residential development is distributed throughout town.

### 3.7.03 DEVELOPMENT CAPABILITY

**Steep Slopes.** Steep slopes pose significant land use and development challenges:

- Steep slopes are subject to erosion and high rates of runoff when cleared.
- State regulations restrict in-ground septic disposal systems on slopes in excess of 25%.
- The costs associated with the construction and maintenance of roads, sewer and water systems, or controlling erosion and preventing stream sedimentation, can be prohibitive on slopes of 15% or greater.
- Development on steep slopes, especially at higher elevations, may adversely affect scenic character as it tends to stand out from many vantage points.





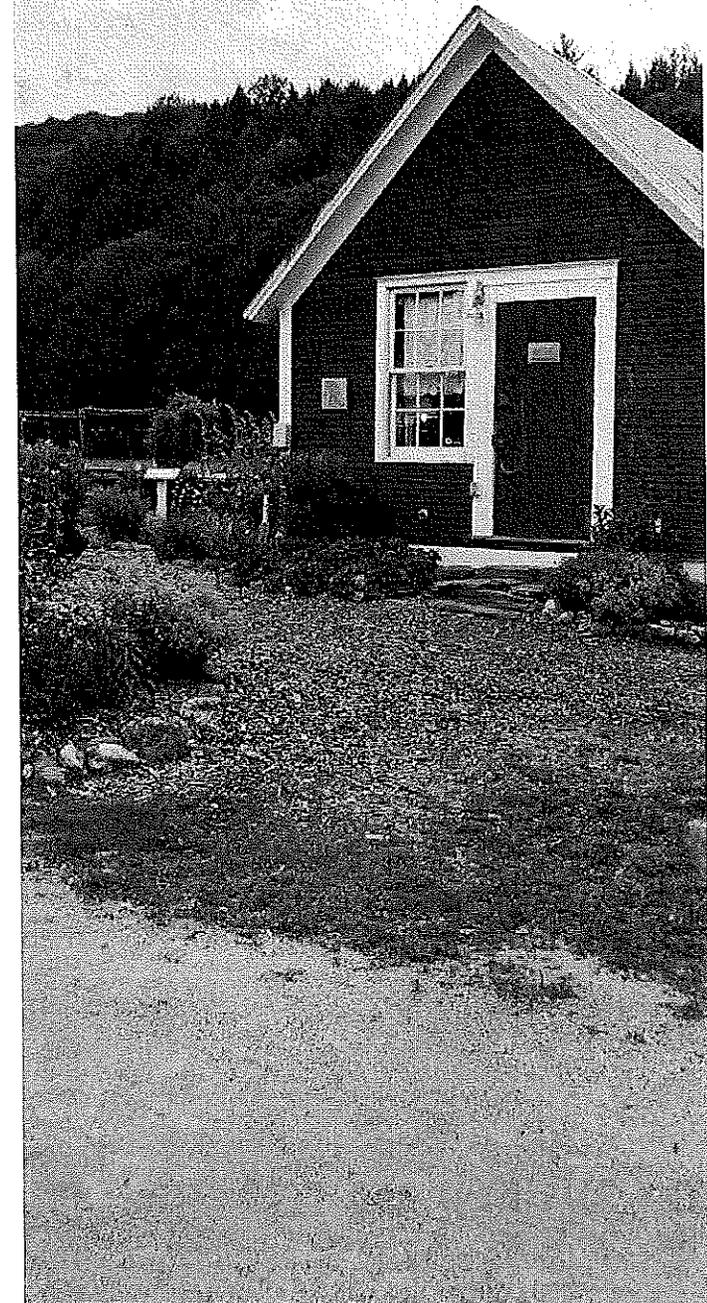
Generally, slopes in excess of 25% should not be developed and Warren discourages development on slopes of 15-25%. Clearing should be conducted with careful attention to erosion control and stormwater management measures. Other special measures that should be considered when reviewing development on steep slopes include the careful siting of structures and landscaping and screening to minimize visibility of buildings and lighting. Also see [Section 3.1.03](#) and [Figure 3](#).

**Soil Suitability for On-Site Wastewater Disposal.** On-site wastewater disposal is regulated by the state Agency of Natural Resource. A state permit is needed for most repairs, upgrades, and new construction of on-site wastewater treatment and disposal systems. Vermont's Wastewater System and Potable Water Supply Rules establish design standards dependent, in substantial part, upon site and soil conditions. To assist in evaluating soils for on-site wastewater disposal, the U.S. Natural Resource Conservation Service (NRCS) has evaluated the soil types found in Vermont and rated them according to their suitability for on-site disposal (see [Section 3.1.05](#) and [Figure 4](#)).

#### 3.7.04 CONSERVATION STRATEGIES

Maintaining Warren's rural character, scenic landscape, working farm and lands, fragile natural areas and historic resources have been objectives of the town since the mid-1970s. The Warren Conservation Committee was formed in 2002 to advise the Selectboard on matters related to open space protection and land conservation. Warren has a Conservation Reserve Fund to be used "...for the purpose of acquisition and perpetual protection of critical agricultural, forest and open land." The Conservation Committee has established the following list of conservation priorities, in the order of importance:

- Land with outdoor recreation resources, including parcels with existing or potential trails, river accesses (especially the Mad River and its tributaries), hunting areas, and potential playing fields and recreation areas;
- Resources that would protect or enhance water quality, such as wetlands, headwater areas, and riparian buffers along the Mad River and its tributaries;
- Land with identified wildlife values, including critical habitat for endangered species, black





bear (including the Slide Brook basin), and identified wildlife corridors;

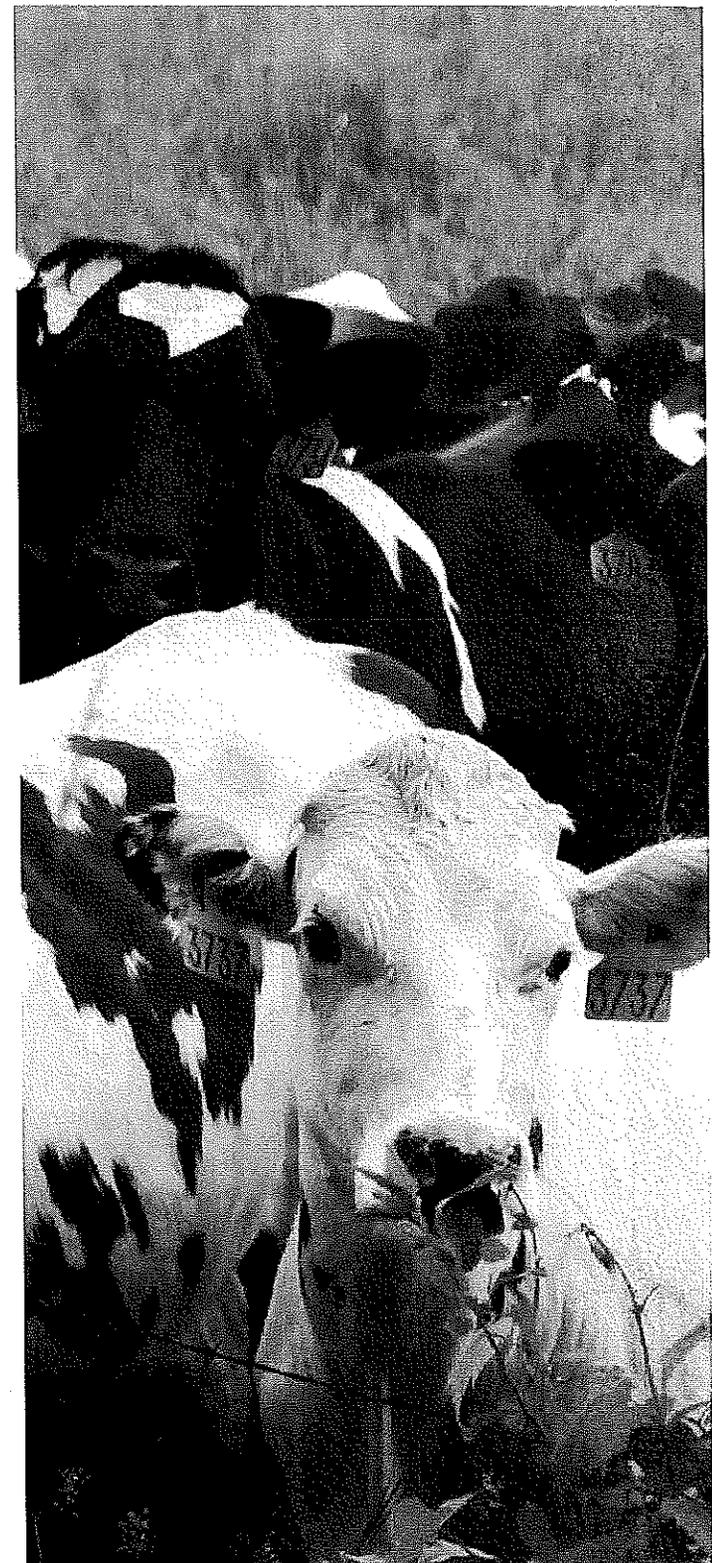
- High elevation forest (ridgelines and prominent knolls) and farmland and meadows visible from well-traveled town roads and Route 100;
- Productive farmland, especially land currently under farm management or with the potential for active farm management;
- Productive forest, especially lands that are contiguous to other undeveloped tracts of forest and conserved parcels;
- Land that contributes to the town's historic settlement patterns including upland areas with poor access to town centers; undeveloped parcels that define the contrast between an open countryside and village centers; and
- Open space that contributes to the character of Warren Village.

### 3.7.05 **LAND USE AND DEVELOPMENT REGULATIONS**

Many town policies and programs have a direct bearing on future land use patterns, but Warren's Land Use and Development Regulations are the primary means by which the town can affect future land use.

**Zoning Districts.** Warren originally adopted zoning regulations in 1972. Those regulations have been revised and re-adopted multiple times, most recently in 2008. The current Land Use and Development Regulations are designed to implement the land use policies expressed in this plan:

- Maintaining the historic character of Warren Village;
- Concentrating higher development densities and commercial activity in and around Sugarbush Village/Lincoln Peak base area;
- Allowing additional residential and limited commercial development at lesser densities throughout the most accessible areas of town; and
- Leaving those areas that are least accessible and most environmentally sensitive undeveloped.





Recent trends, coupled with concerns raised by town residents, suggest that some changes should be made to the zoning districts, although the guiding land use principles should remain intact.

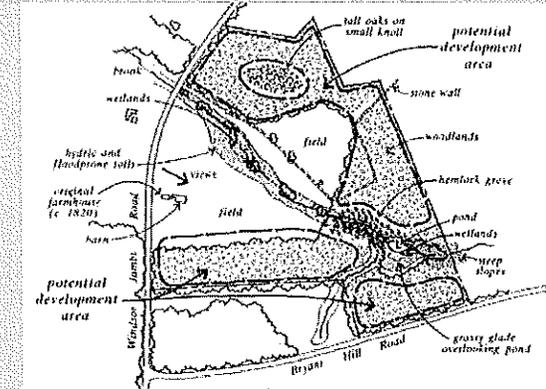
**Subdivision Standards.** The subdivision standards incorporated into Warren’s Land Use and Development Regulations provide public oversight regarding the pattern and location of development, the provision of public and private infrastructure, and the protection of natural resources and scenic features. Subdivision standards can be an essential tool for ensuring that new residential development occurs in a manner that is consistent with the town’s traditional landscape and rural character.

Despite Warren’s regulations, the bulk of land subdivision and residential development has been occurring in rural areas of town, and much of it has a suburban character and pattern that is inconsistent with the town’s historic landscape. This development pattern also raises concerns over the impact of isolated development, land clearing, road and driveway construction, and the siting of houses and septic systems on hillsides.

These concerns can be addressed through a subdivision design process that begins with a thorough resource evaluation and review so that future development will be sited in a manner that fits into the landscape to protect rural character, scenic values and important natural resources. That approach is known as ‘open space’ or ‘conservation’ subdivision design (see Figure 24). Other revisions to the subdivision standards that might be considered include:

- Further limiting development on primary conservation areas (specifically steep slopes and scenic roads);
- Establishing landscaping and tree cutting standards to address the scenic impacts of development on forested hillsides and meadowlands;
- Measures to encourage and facilitate affordable housing; and
- Procedures for amending final plats.

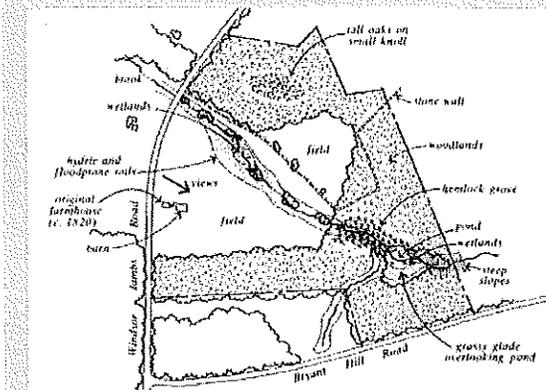
Figure 24: Conservation Subdivision Design



Step 1. The boundaries of fragile natural features, including flood hazard areas, wetlands, water bodies and excessively steep slopes with gradients of 25% or greater, are carefully delineated on a map.

Step 2. Suitable development sites are carefully located to avoid any adverse impact to identified natural resources, and to result in the minimum impact feasible to farmland and scenic views.

Step 3. House sites are identified, infrastructure is laid out and lot lines configured.





### 3.7.06 LAND USE AREAS

**Warren Village.** Warren Village has served as the center of government and commerce for more than 100 years. It features a mix of residential, commercial and institutional land uses at relatively high densities along the road network. Due largely to the Route 100 bypass constructed in 1954, Warren Village has not experienced the widespread commercialization typical of other historic villages located along busy highway corridors. The settlement pattern and architecture are typical of 19<sup>th</sup> century Vermont:

- Residential uses are dispersed throughout Warren Village, including single family structures, duplexes, and multi-family structures.
- Commercial activity is concentrated at the 'triangle' formed by Main Street, Brook Road and Flat Iron Road. Businesses include a general store, an inn, offices and specialty shops.
- Civic functions are clustered primarily on Cemetery Road just south of the 'triangle' and in the vicinity of the elementary school, and the post office in the village center.

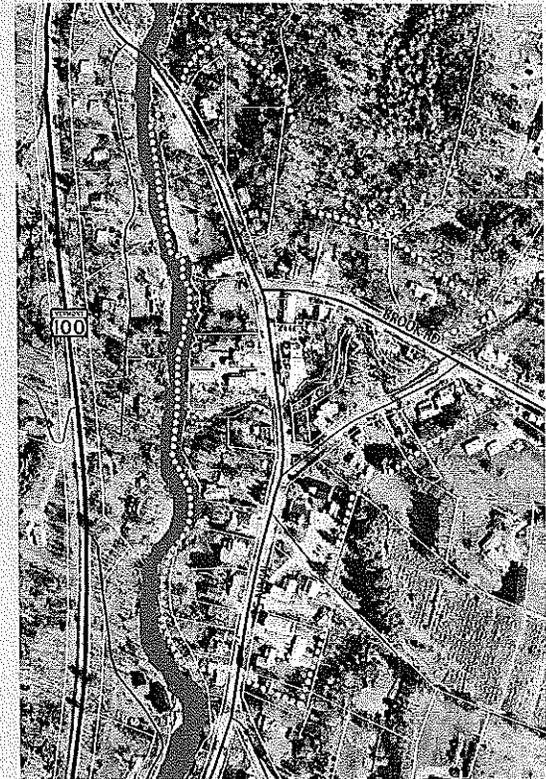
The potential for additional growth is limited by physical constraints (including flood hazard areas) and the desire to maintain Warren Village's traditional scale and form. The village's distinct character and sense of place results from a combination of features and elements including:

- A traditional village settlement pattern comprised of buildings on narrow, small lots set close to the street;
- Architectural diversity reflecting various eras of construction that results in a mix of buildings that are complimentary to one another in terms of scale and mass;
- Several prominent buildings serving as civic and cultural focal points;
- Pedestrian access and circulation;
- The dominance of residential land uses; and
- A clear contrast between the village and the surrounding countryside.

On the Future Land Use Map (Figure 26), Warren Village is within the Village land use classification. The following planning considerations have been identified for Warren Village:

Figure 25. Warren Village Center

Warren Village has been a state-designated Village Center since 2009. Under this designation, owners of income-producing properties located within the designated area may be eligible for tax incentives and grants for building improvements (more information is available on the state's [Village Center Program](#) webpage) and the town receives priority for various state grants and funding opportunities.





- The Village Commercial District was expanded south on Main Street to accommodate a potential expansion of the post office facility in 2001. There are concerns that if this district were to be expanded further, additional residential buildings would be converted to commercial uses, altering the residential character of Warren Village.
- The creation of a third zoning district located between the Warren Village Commercial and Warren Village Historic Residential where commercial development and/or higher-density residential development would be encouraged while at the same time maintaining and retaining Warren Village's traditional scale and character should continue to be explored.
- The provision of municipal wastewater makes higher densities than are presently allowed under the land use regulations feasible. Currently, most properties in the Warren Village Historic Residential district do not comply with the district's dimensional and density standards. Options for accommodating the traditional development pattern and allowing additional growth in a manner, scale and form that conforms to the traditional development pattern could better reflect the historic character of the village than the large lot development now required by the land use regulations.
- Most existing businesses in the Historic Village Residential District are associated with residential uses, which helps to maintain the residential character of Warren Village. Home-based businesses should continue to be encouraged in the village, but standards for site design and building scale could be considered to allow for expansion of such businesses while maintaining village character.

**Alpine Village.** Alpine Village developed on an approximately 290-acre site in the southeastern corner of town in the early 1960s for vacation homes, camps and related seasonal recreation uses. The development predates most state and local regulatory processes. Alpine Village was laid out with 4,000 square foot lots and a gridded street pattern with little regard to the natural land form or development capability.

Alpine Village has evolved over the decades into a clearly defined residential neighborhood. Landowners have consolidated pre-existing, non-conforming lots into larger residential parcels and upgraded seasonal camps for year-round use. While Alpine Village has benefited from the investment and 'sweat equity' of homeowners over the





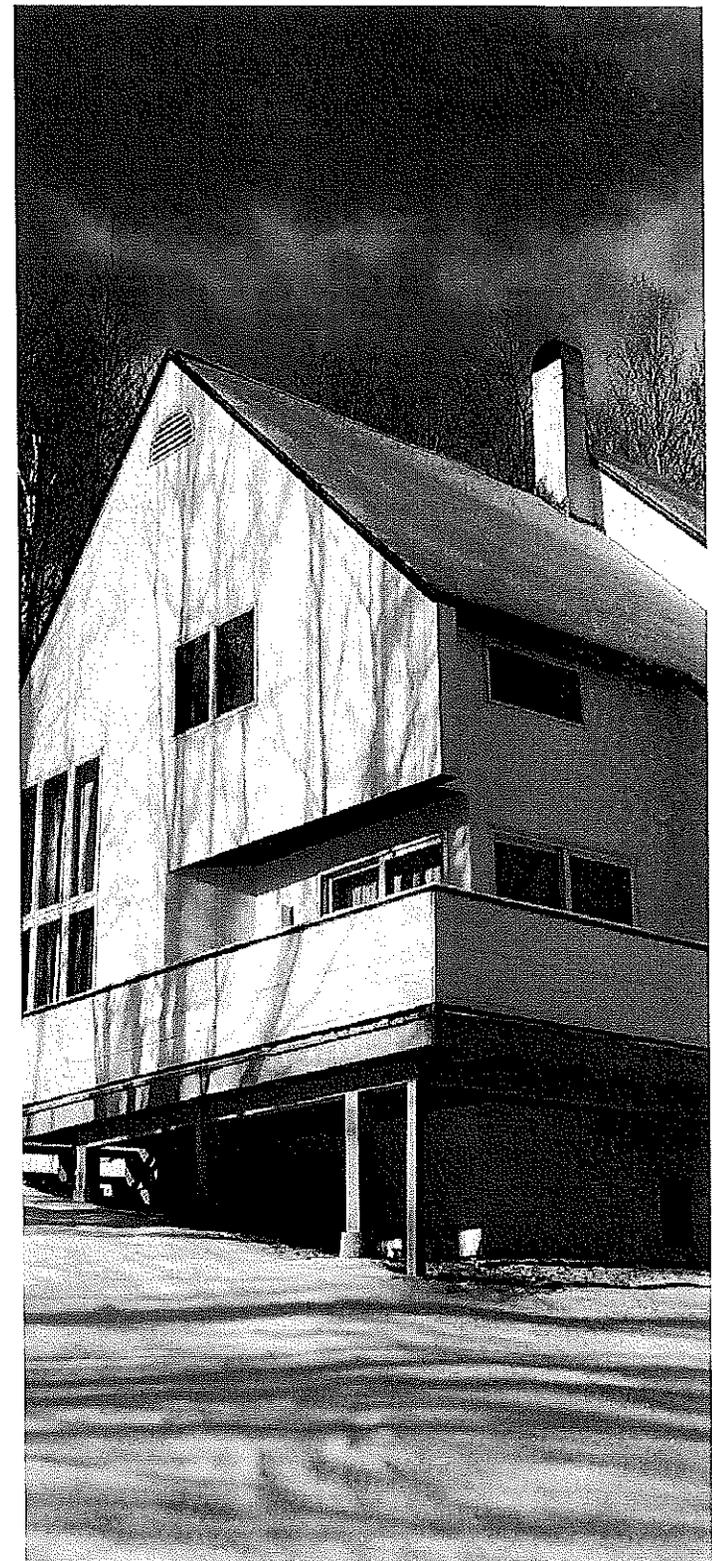
years and has become one of the most affordable neighborhoods in town, it continues to face challenges stemming from the inception of the development:

- The road network is privately owned and in poor condition.
- The conflict between year-round residents and landowners using the area for seasonal camping remains an issue.
- Poor soils and small lot sizes may pose a number of public health risks associated with on-site septic systems and private wells. To date, no feasibility study has been performed to determine whether a community disposal system is practical. However, such a study will likely become more critical as year-round occupancy increases.

On the Future Land Use Map ([Figure 26](#)), Alpine Village is included in the Residential land use classification. The following planning considerations have been identified for Alpine Village:

- The Alpine Village Residential District currently has a minimum lot size of one acre, but requirements that pre-existing small lots be merged could be reviewed to determine whether those standards reflect current state statute. A robust system for monitoring the transfer of small lots could be instituted to support the continued consolidation of parcels.
- Some standards for the occupancy of recreational vehicles could be included in the land use regulations to address issues such as sewage disposal.

**Sugarbush Village and Lincoln Peak Base Growth Center.** Since the advent of alpine skiing on Lincoln Peak in 1958, Sugarbush Resort has been the economic engine that has driven a dispersed mix of lodging, seasonal residential and commercial development in the high elevation bowl formed at the convergence of Clay and Rice brooks. This area represents a significant portion of Warren's grand list value and is the focal point for the Valley's tourist industry. Containing the bulk of recent commercial and residential development, the Sugarbush Village and Lincoln Peak area will likely continue to serve as the focus of economic activity and development for the foreseeable future. Warren identifies the Sugarbush Village and Lincoln Peak Base Area as its primary growth center with the following objectives:





- Provide incentives to assure growth of housing units, including affordable and workforce housing, in accordance with the policies of this plan;
- Encourage the expansion of the existing transportation infrastructure (GMTA) to include routes and additional pickup locations to minimize traffic congestion; and
- Encourage the full utilization of the existing wastewater systems to facilitate development in accordance with the policies of this plan.

Early development in Sugarbush Village was largely uncoordinated and unorganized due to the lack of a guiding land use plan for this area. Ownership patterns and 1970s zoning resulted in a high concentration of residential and commercial uses in Sugarbush Village adjacent to the base of Lincoln Peak. Although Sugarbush Village provided direct access to ski trails, the large parking area formerly owned by the U.S. Forest Service prevented the development of base area facilities that could integrate the village with ski area operations. When Sugarbush Resort acquired the parking area and

Figure 26. Future Land Use Map



WARREN TOWN PLAN 2019 TO 2027  
about warren



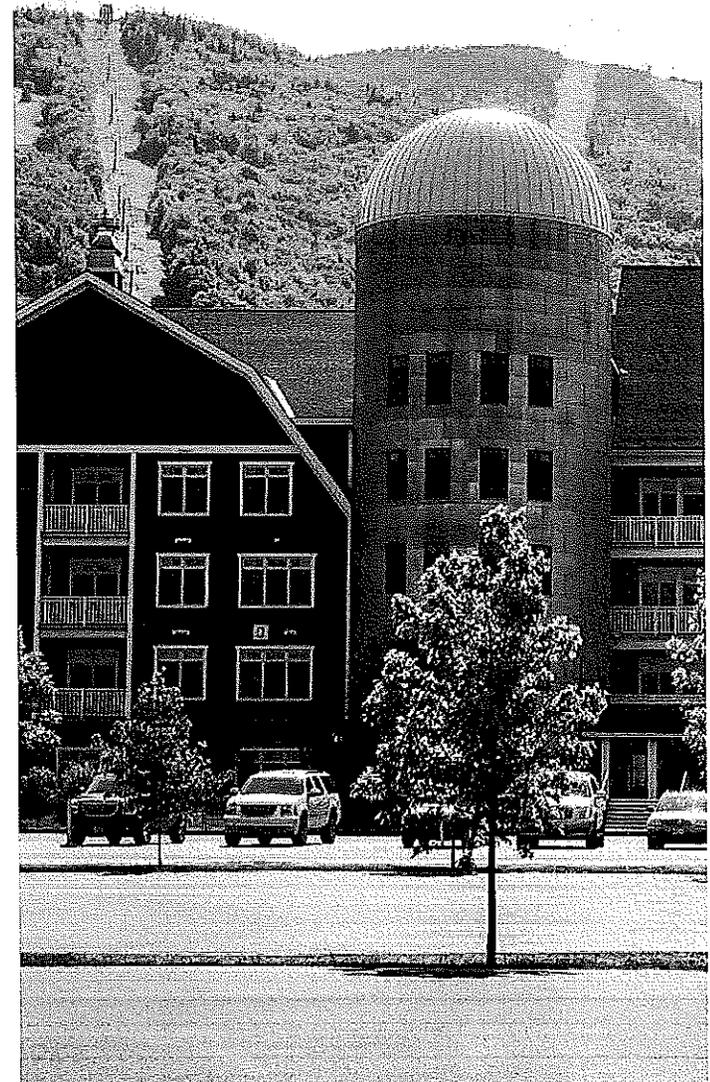
surrounding land in 2000, it began an ongoing master planning and permitting process for new development intended to strengthen the relationship between the Sugarbush Village and the ski area.

Concerns have been raised in the past regarding Sugarbush management's desire to develop self-contained commercial amenities at the base of the mountain by Sugarbush Village property owners interested in maintaining the economic viability of the village through greater integration with, and access to, ski area operations. Recently, Sugarbush management has demonstrated a willingness to support the viability of Sugarbush Village through property leasing and business development.

Beyond the loosely defined boundaries of Sugarbush Village are a number of lodging and residential enclaves accessed from the Sugarbush Access, German Flats and Inferno roads that have developed at a range of densities. There is also a lower density residential area surrounding the Sugarbush Golf Course. The growth center area as established in this plan encompasses not only Sugarbush Village and the base of Lincoln Peak, but the majority of the commercial and condominium development in the vicinity, as well as approximately 300 acres of land in the vicinity of the Sugarbush Golf Course.

On the Future Land Use Map (Figure 26), Sugarbush Village and Lincoln Peak Base Growth Center are included in both the Mixed Use and Residential land use classifications. Warren's Land Use and Development Regulations establish the following zoning districts within this growth center area:

- The Sugarbush Village Commercial (SVC) district encompasses the core of Sugarbush Village, including the commercial enterprises adjacent to the covered bridge, the Lincoln Peak base facilities and a portion of the 57-acre site. It is intended to facilitate development of a compact, urban core at the base of Lincoln Peak. There has been substantial development in this area during the past decade and the remaining undeveloped lands should be dedicated to residential and commercial development with specific linkage to Sugarbush Village.
- Sugarbush Village Residential (SVR) district encompasses most of Sugarbush Village uphill from the base area, as well as some of the surrounding land. It is intended to primarily accommodate residential and lodging uses.





- Vacation Residential (VR) district encompasses more than 470 acres of land surrounding the Lincoln Peak base area and Sugarbush Village. Much of the condominium development of the late 1970s and early 1980s occurred in this district. Past development has included a range of styles and levels of construction quality. Individual projects were generally isolated and lack road or pathway connections to one another or an integration of dedicated open space. The siting and inadequate landscaping of some projects resulted in unattractive developments. Further, the extensive frontage on major roads in this district poses a risk of commercial strip development.
- German Flats Commercial (GFC) district is intended to provide the Sugarbush Inn site with higher densities and greater flexibility of uses than are allowed in the surrounding VR district.

The following planning considerations have been identified for the Sugarbush Village and Lincoln Peak Base Growth Center:

- The development of the remainder of the 57-acre site (and associated ski-facility improvements) presents an opportunity. As the ski area expands, the base area should be developed in a manner that reflects the ski village scale and density with an integrated street network, the development of parking structures and elimination expansive surface parking lots, and a pedestrian orientation of development and transit service. The Town of Warren and Sugarbush management should continue to work together to ensure that future development occurs in a manner that takes full advantage of the potential to create a pattern and scale of development that balances the town’s planning goals with Sugarbush’s development goals.
- Potential environmental threats associated with large-scale development at high elevations should continue to be monitored. Wastewater treatment, stormwater management, and encroachment into remote areas, are all important considerations relative to future development. The ecological sensitivity of the area demands the highest level of environmental protection, especially during construction. Warren has concerns regarding large scale and intense future development of the base area due to:
  1. Greater recreational use of sensitive upland areas;
  2. Increased development pressure outside of the growth center boundaries;
  3. The potential to undermine existing business enterprises and other commercial centers;



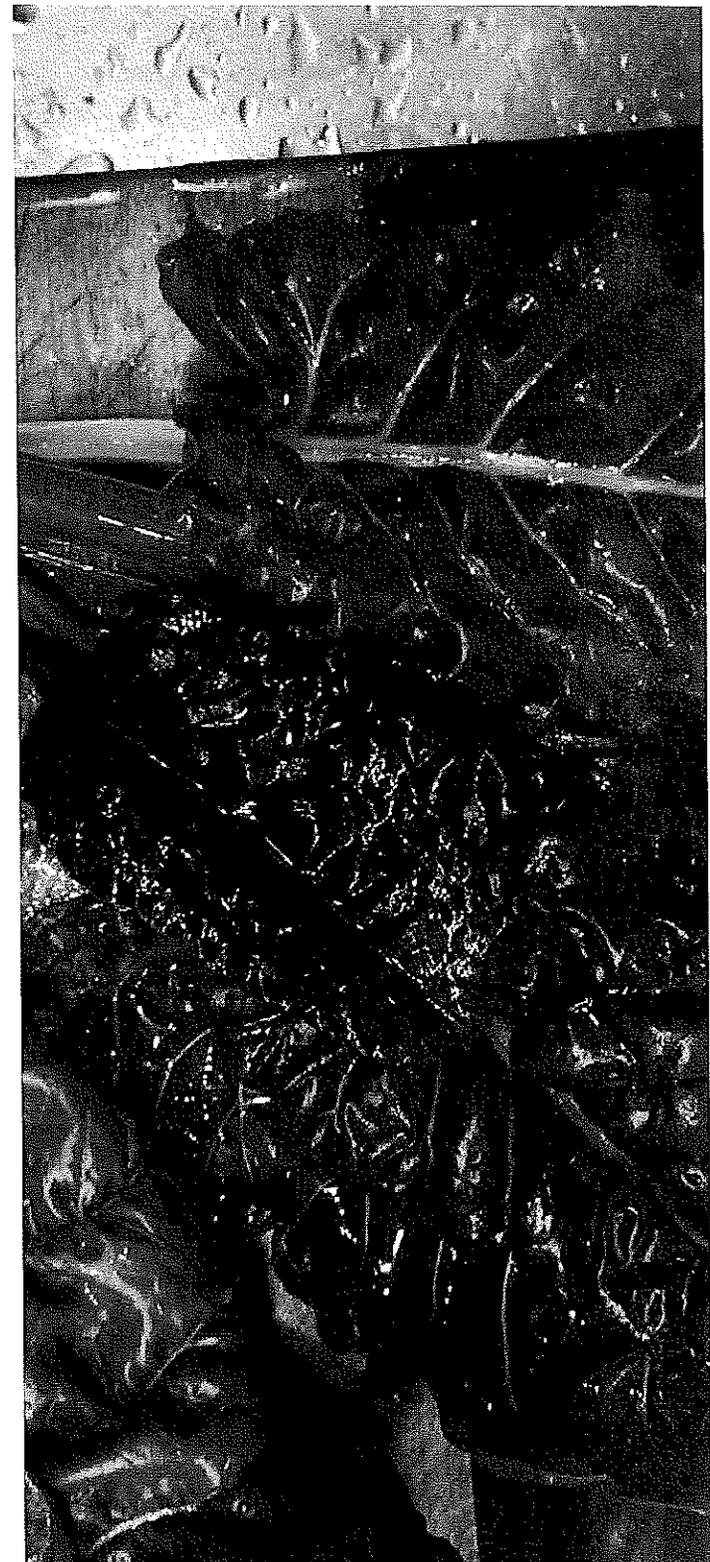


4. Traffic impacts on the regional road network; and
5. Increased demand for public services and facilities especially the existing shuttle network.

These concerns should continue to be addressed through revisions to the Land Use and Development Regulations to ensure that they are considered during future regulatory review of development proposals in the growth center area.

- The possibility of allowing for an overall density of the southeasterly triangle of SVR district comparable to the SVC district should be explored. Prior to any modification of district boundaries or density, it will be important to fully understand how this land use change would affect the function of the SVC as the town's primary focus for growth and development.
- In comparison to the concentrated ownership of undeveloped land at the base of Lincoln Peak, the VR District provides business opportunities to a variety of landowners. With good site design principles and clear open space protection and landscaping requirements, the VR District could serve as a low-impact, moderate-density contrast to the high-density core in and around Sugarbush Village.
- Assess the likelihood of Sugarbush to link the Inn with the ski area with lift facilities. Should such a lift extension appear feasible, Warren could consider expanding the VR district to include the lots on the south side of the Access Road and identifying appropriate uses, densities and development standards to facilitate development of a small crossroads commercial center. If it is not feasible, Warren could consider eliminating the VR district.
- Explore allowing more flexibility for PUDs and project aligned with the objectives of the growth center.

**Rural Countryside.** More than 90% of land in Warren is zoned either Forest Reserve (FR) or Rural Residential (RR) and approximately 1,800 acres are also included in the Meadowland Overlay (MO) District. These lands comprise the bulk of productive farm and forest land in Warren and define the town's historic working landscape. However, the rural parts of town have been the focus of significant residential development pressure in recent decades. Guiding future development in the rural areas of town will be of particular importance to efforts to preserve Warren's sense of place and rural character.

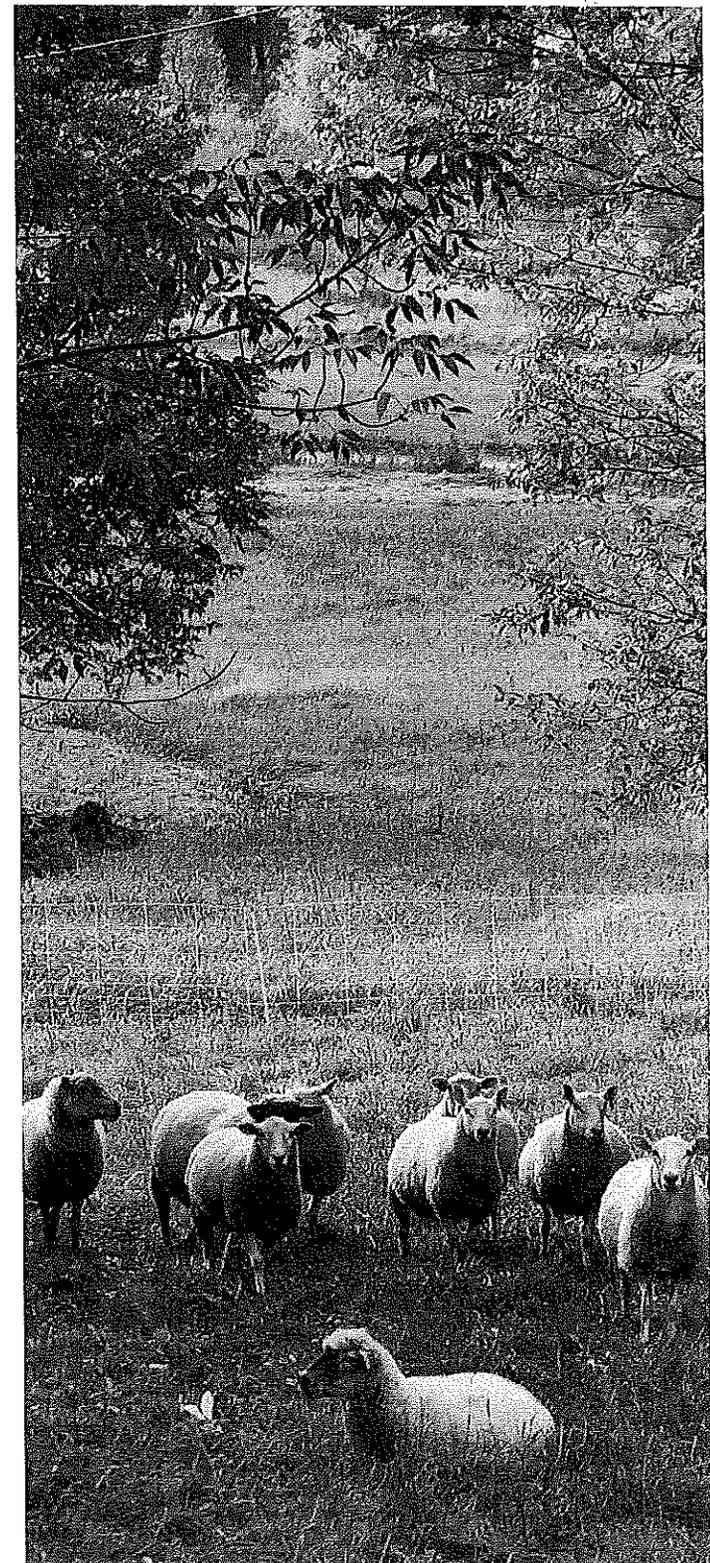




- The Forest Reserve (FR) district is characterized by steep slopes, a preponderance of soils with poor septic suitability, highly visible hillsides and ridgelines that form the background for many of the town's scenic viewsheds, large tracts of forest land, fragile headwater areas, and extensive wildlife habitat (including some of the most productive black bear habitat in Vermont). While portions of the district were once used for agriculture, as evidenced by stone walls and patchwork forest patterns, it is almost entirely wooded today. The FR district presently permits few land uses other than forest management and very-low density single-family homes. Much of the property within the district is subject to ongoing forest management and large tracts are held by the Green Mountain National Forest (GMNF).
- Rural Residential (RR) District is intended to protect environmental resources while permitting low-density development. In addition to single-family homes permitted on one-acre parcels, a number of other land uses, including light, medium and heavy industry, are presently allowed within this district but the general pattern of development should remain largely rural.
- Meadowland Overlay (MO) district was designated to encompass all land that was in agricultural production in the late 1970s. The purpose of the district is to maintain viable farmland for agricultural uses and to locate development in a manner that, to the extent feasible, preserves the open fields and meadows. Structures within the MO, including renewable energy structures, must be located along the perimeter of open fields and meadows. The MO standards have been a successful regulatory tools for protecting the town's scenic and working landscape.

On the Future Land Use Map (Figure 26), the rural areas of town are within the Forest and Conservation, Rural Working Lands, or Rural Residential land use classifications based on their current land use, location, development capability and natural resource constraints. The following planning considerations have been identified for the rural areas of town:

- Good forest management can ensure a sustainable income from timber harvesting while accommodating stable wildlife populations, protecting sensitive headwater streams and providing a wide range of low intensity recreation opportunities. A number of programs are available to foster sound forest management and provide financial incentives to landowners in return for multiple use management of their property.

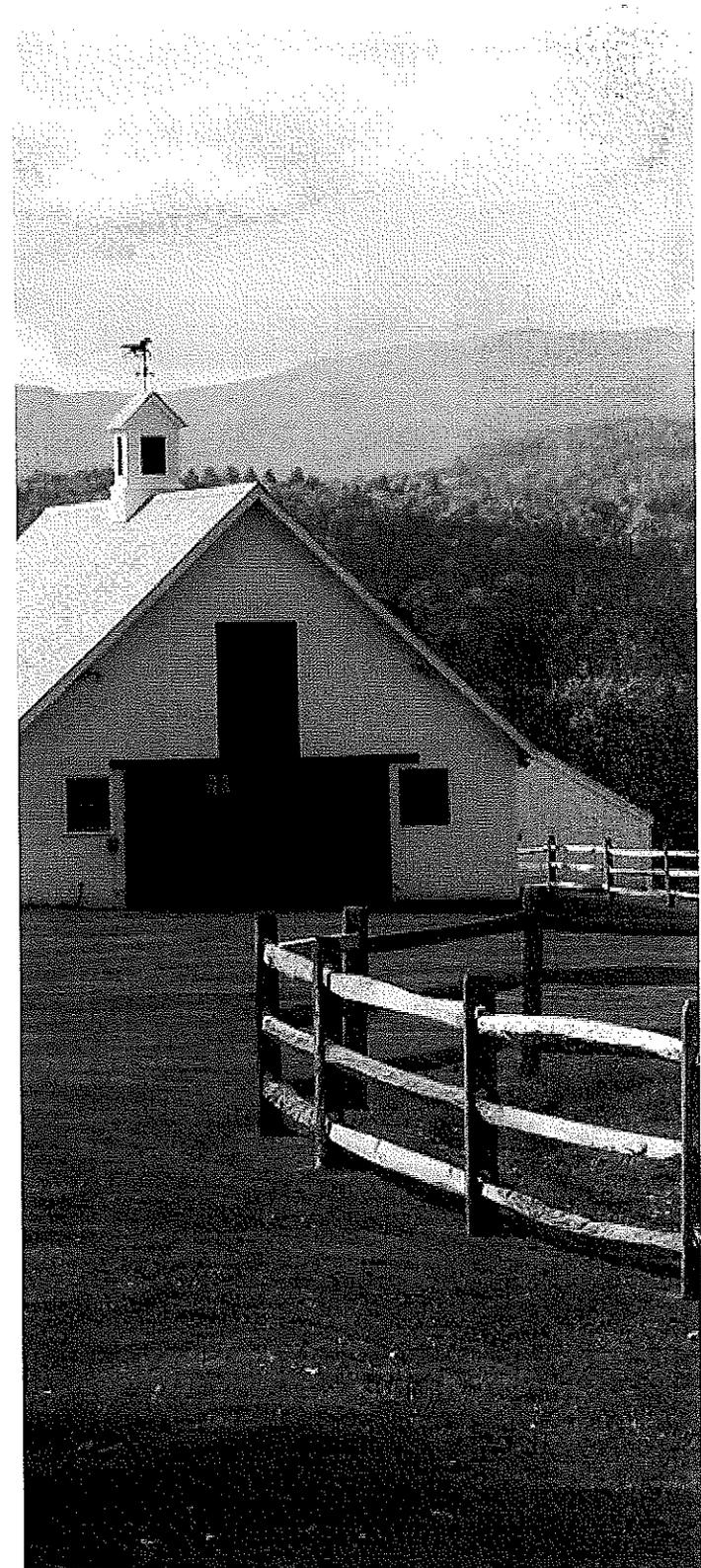




- Consider mechanisms for discouraging the construction, upgrading or extension of roads to serve new development in the FR district. Because of the geographic conditions and the distance from other town roads and services, road improvements are expensive and difficult to maintain. Emergency vehicle access is challenging on steep, narrow roads, and the potential exists for conflict between automobile traffic, logging operations and outdoor recreation.
- Consider the need to protect wildlife habitat, especially several large contiguous habitat units that support populations of black bear, bobcat, moose, songbirds and other species.
- Consider the visual impacts associated with lot clearing and the placement of structures on prominent sites and steep hillsides.
- Consider the potential for erosion and stormwater runoff resulting from clearing and development on steep slopes, especially in headwater areas.
- The historic pattern of farmyard clusters surrounded by open fields could be recreated in the RR district through Planned Unit Development (PUD) standards that allow landowners to cluster development in this historic pattern.
- Incentives to maintain historic barns should be continued, including allowing such structures to be used for uses not otherwise permitted in the RR district.
- Consider incorporating standards for maintaining open land in the MO.

**Commercial Nodes.** In addition to the centers identified above, three small commercial nodes are recognized within the Land Use and Development Regulations:

- Access Road Commercial (ARC) district encompasses several commercial properties clustered around the intersection of the Sugarbush Access Road and Route 100. Several of the parcels have been developed for commercial uses. This area serves as the gateway to Sugarbush Resort. Efforts to strengthen the area through improved landscaping and site design would contribute to property values as well as the scenic values of the Route 100 corridor.
- Airport Commercial (AC) district encompasses the Sugarbush Airport and is designed to promote the continued viability of that facility and encourage compatible land uses while protecting neighboring residential properties from adverse impacts of such development. Nevertheless, nearby property owners should be cognizant of the inherent needs and characteristics of airport operations.





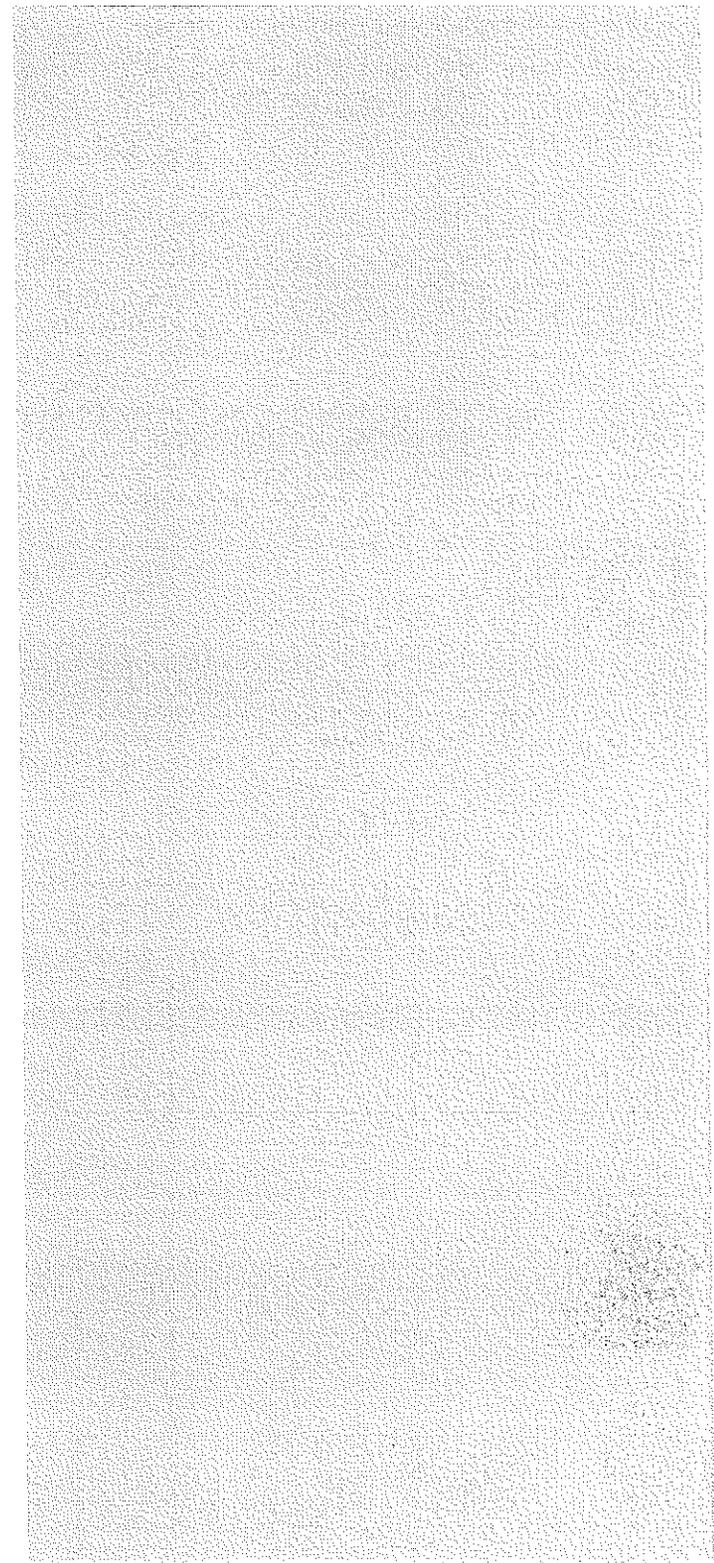
- Bobbin Mill Commercial (BMC) district, located just south of Warren Village, has been the site of industrial activity for more than 100 years. Due to its historic use, existing character, proximity to Route 100 and Warren Village, and relative isolation from surrounding properties, the area is a suitable location for continued industrial and associated commercial uses.

On the Future Land Use Map (Figure 26), the commercial nodes are included in the Business land use classification. The following planning considerations have been identified for the commercial nodes:

- A review of the land uses allowed in the AC district would be useful to determine whether some of the commercial uses should be limited to accessory to the airport or other outdoor recreation enterprise, and whether other light industrial uses might be encouraged.
- The upper portion of the BMC has good access, soils and southern exposure and is suitable for moderate density residential uses once the current sand extraction is completed. Other considerations include the need to protect water quality and recreational access in Lincoln Brook and ensure that standards are developed to protect neighboring properties.

**Hazard Areas.** The Special Flood Hazard Overlay District was created to ensure that the design and construction of development in flood or hazard areas are accomplished in a manner that minimizes or eliminates the potential for flood and loss or damage to life and property. Through this overlay district, the Town of Warren implements the federal flood hazard regulations that are required for property to be eligible for federal flood insurance and other federal disaster funding that may be available.

**Future Considerations.** Again, to accomplish the proposed land use plan while achieving many of the goals set forth in other chapters of this plan, additional development standards related to environmental protection, traffic management, commercial strip development, open space preservation and coordination of land use and capital facilities planning, will be required. A full range of regulatory and non-regulatory strategies are available to the town. By focusing on the regulatory alternatives, it is hoped that this plan will serve as a blue print for future zoning changes.





# 4 objectives and strategies

## 4.1 INTRODUCTION

The Warren Town Plan provides a framework for attaining the vision and goals found in Chapter 1 of this plan through capital budgeting and public investments, the town's land use regulations, participation in various state programs, and other implementation measures. In addition to guiding local decision-making, the plan is considered by regional and state agencies as they plan, develop and fund programs, provide services, locate facilities, and enact regulations. It is also used in state regulatory proceedings such as Act 250 and Section 248 permitting processes to determine whether proposed development is consistent with community goals and standards. When using this plan for a regulatory purpose, the objectives, policies and strategies below should be considered in context as part of a whole rather than as individual statements meant to stand alone. Warren, as all communities, has competing objectives that must be balanced on a case-by-case basis using this plan as a guide for those decisions.

## 4.2 OBJECTIVES

Objectives are attainable targets for accomplishing one or more goals.

### 4.2.01 RESOURCE PROTECTION

- |   |   |
|---|---|
| 1 | To protect and enhance Warren's scenic landscape, historic built environment, rural character and cultural heritage.  |
| 2 | To protect and enhance Warren's natural environment, sensitive or fragile natural resources, water quality, wildlife populations, forest blocks and open space. |

### 4.2.03 LAND USE AND DEVELOPMENT

- |   |  |
|---|--|
| 3 | To guide development to existing settlement areas already served by public roads and other infrastructure, limit growth in rural and remote areas of town, and avoid strip commercial development along major travel corridors and in residential areas. |
| 4 | To reinforce traditional settlement patterns and facilitate the logical extension of services and facilities through thoughtful planning and careful regulation of land subdivision and development.   |



- |           |  |
|-----------|--|
| <b>5</b>  | To preserve the distinctive, historic, small-town character of Warren Village, and maintain and reinforce the Village as the focus of civic and cultural life in the community.  |
| <b>6</b>  | To foster economic development of a type, quality, scale and intensity that is consistent with Warren's desire to remain a resort community with a distinctive identity and small-town character.  |
| <b>7</b>  | To continue to allow for and encourage the creation of the range of housing needed to attract and retain a diverse population of year-round residents in terms of age and income, including housing affordable to people working in town.  |
| <b>8</b>  | To maintain and require high-quality, context-sensitive site and building design resulting in new development that fits into the surrounding natural and built environment, minimizes its environmental impacts and energy use, and contributes positively to Warren's distinctive small-town character. |
| <b>9</b>  | To maintain the base of working lands necessary to support economically viable farm and forestry businesses and to preserve Warren's rural character and way of life.  |
| <b>10</b> | To encourage rural landowners to allow public access to undeveloped lands for recreational use and traditional rural activities such as hunting and fishing.   |

4.2.04 **RESILIENCY, SUSTAINABILITY AND ADAPTATION**

- |           |   |
|-----------|---|
| <b>11</b> | To ensure that the rate of growth and scale of development will not overburden community facilities or services, or undermine the community's rural character and quality of life.  |
| <b>12</b> | To strengthen the community's commitment to energy efficiency and conservation by guiding development to existing settlement areas, promoting energy-saving siting and construction methods, and encouraging use of renewable energy sources.   |
| <b>13</b> | To encourage the use and development of local renewable energy sources at a scale and in locations compatible with the desire to protect Warren's natural environment and scenic character, which are essential to the town's tourism-based economy and distinctive sense of place valued by both residents and visitors. |
| <b>14</b> | To guide development away from flood and erosion hazard areas, maintain or re-establish riparian buffers, and mitigate the impact of flooding and erosion on existing development in hazards areas.   |



4.2.05 **INFRASTRUCTURE AND TRANSPORTATION**

15 To reduce transportation demands by guiding development to existing settlements and away from remote areas, and by promoting energy-efficient alternatives to private automobiles such as transit, carpooling, walking and biking.

16 To recognize that town roads and bridges contribute to Warren's historic, scenic and rural character, and to manage that infrastructure in a manner that meets community needs without adversely impacting community character.

17 To use the town's capacity to plan and provide for roads, sidewalks, sewer and other infrastructure necessary to facilitate development supporting the land use patterns called for in this plan.

4.2.06 **COMMUNITY FACILITIES AND SERVICES**

18 To foster provision of the community facilities, services and amenities necessary to attract and retain a diverse population of year-round residents such as healthcare, child care, elder care, education and recreation in Warren and neighboring communities.

4.2.07 **ADMINISTRATION AND GOVERNANCE**

19 To ensure that town government is open and transparent with opportunities for informed, meaningful citizen input in community planning and decision-making.

20 To administer the town regulations and ordinances in a predictable, fair and consistent manner.

21 To revise and readopt this plan as necessary to meet state requirements and respond to changing conditions, needs and priorities in Warren.

4.2.08 **REGIONAL COORDINATION AND COOPERATION**

22 To work in partnership with surrounding communities, regional or state organizations, state government to further the goals and objectives of this plan.

23 To cooperate with neighboring towns to more efficiently share resources in an effort to achieve cost savings.



4.3

## STRATEGIES

Strategies are policies or actions. Policies guide decision-making in order to attain (or contribute to attaining) one or more objectives. They are intended to guide all relevant decision-making by town government, and in those circumstances where the plan is intended to influence regional or state decision-making. Actions are the next steps – concrete activities or programs intended to attain (or contribute to attaining) one or more objectives.

A timeframe is established for each strategy. Ongoing strategies are part of the regular roles, responsibilities or activities of the listed entities. Periodic strategies are also part of the regular roles, responsibilities or activities of the listed entities that happen at a specified interval or only from time-to-time. In-progress strategies are actions or projects that were already in some phase of planning or implementation as of the writing of this plan. Short-term strategies are actions or projects that are considered likely to be in some phase of planning or implementation during the next 8 years. Long-term strategies are actions or projects that are that are not currently anticipated to be in some phase of planning or implementation during the next 8 years, but which may proceed more quickly if conditions change or an opportunity arises.

4.3.01

### MAINTAINING RURAL CHARACTER

1	Support future acquisition of land by the US Forest Service to be included in the Green Mountain National Forest and the Green Mountain National Forest’s proclamation boundary to include portions of the Northfield Mountain Range.	Ongoing by Conservation Commission, Planning Commission and Selectboard.
2	Participate in the review and revision of the Green Mountain National Forest Management Plan to ensure that wildlife habitat, recreation opportunities and aesthetic resources are protected and enhanced.	Periodically by Conservation Commission, Planning Commission and Selectboard.
3	Continue contributing to Warren’s Conservation Reserve Fund and work with land conservation organizations to identify, prioritize and permanently protect farmland, lands with fragile features and other important natural resources through outright purchases or conservation easements.	Ongoing by Conservation Commission, Planning Commission and Selectboard.
4	Implement, and strengthen as necessary, the provisions of Warren’s land use regulations intended to conserve farmland and important natural resources when land is being subdivided or developed.	Ongoing by Development Review Board and Conservation Commission.
5	Partner with the Friends of the Mad River to participate in and support implementation of The Best River Ever, including ongoing assessments of water quality and appropriate action to correct any identified problems, such as establishing riparian buffers and implementing appropriate erosion control when soils will be disturbed.	Ongoing by Conservation Commission, Planning Commission and Selectboard.



6	Partner with the Conservation Commission and Selectboard to take steps to ensure that working farmland, particularly large tracts, is maintained	Ongoing by Conservation Commission, Planning Commission and Selectboard.
7	Implement, and strengthen as necessary, the provisions of Warren's land use regulations intended to protect natural resources and fragile features, including wetlands, headwater streams, steep slopes, viewsheds, wildlife corridors and wildlife habitat, on land being subdivided or developed.	Ongoing by Conservation Commission, Development Review Board, Planning Commission and Selectboard.
8	Refine and update the 2008 Warren Natural Heritage Inventory and Assessment as necessary, and use it as a basis for protecting important natural resources through the town's permitting and development review processes.	Ongoing by Conservation Commission and Development Review Board.
9	Support the Mad River Valley Rural Resource Commission to nominate suitable rural lands and buildings in Warren to the National Register of Historic Places as part of a historic district similar to the Mad River Valley Rural Historic District in Waitsfield and Moretown.	Ongoing by individual property owners, Historical Society and Planning Commission.
10	Require conservation subdivision design in rural areas that will protect important natural resources, maintain open space and preserve rural character.	Ongoing by Zoning Administrator and Development Review Board.
11	Require developers to incorporate rural cultural features, including farm and logging roads, stone walls, tree and fence lines, existing cellar holes and agricultural buildings, into site and subdivision plans, and encourage the adaptive reuse of historic agricultural buildings.	Ongoing by Zoning Administrator and Development Review Board.
12	Implement the town's road ordinance to protect those features within the road right-of-way that contribute to scenic character.	Ongoing by Selectboard.
13	Limit the use of outdoor lighting to the minimum necessary and ensure that all outdoor fixtures are sited, designed, installed and operated in a manner that minimizes glare and skyglow, and maintains dark night skies and rural character.	Ongoing by Zoning Administrator and Development Review Board.
14	Through the subdivision and conditional use review process ensure that new development is context-sensitive and designed to reflect the traditional scale, pattern and form of development, and is compatible with its context and setting.	Ongoing by Zoning Administrator and Development Review Board.
15	Promote continued access to private lands for hunting, fishing and other forms of outdoor recreation, with due consideration given to landowner concerns such as liability, vandalism, safety and intrusion.	Ongoing by Selectboard and Conservation Commission.
16	Encourage sustainable forest management to ensure wood supply for the future.	Ongoing by Energy Committee.

WARREN TOWN PLAN 2019 TO 2027  
objectives and strategies



## FOSTERING APPROPRIATE GROWTH AND DEVELOPMENT

- 17** Through the town's Land Use and Development Regulations and Act 250 proceedings continue to:
- ☑️ Discourage development not necessary to facilitate alpine recreation on land characterized by slopes of 15% to 25% and prohibit such development on land characterized by slopes with a gradient in excess of 25%.
  - ☑️ Prohibit the creation of parcels poorly suited for development due to features such as exposed bedrock, shallow soils, wetlands, steep slopes, high elevations, floodplains or natural heritage sites.
  - ☑️ Require development to avoid and/or mitigate any adverse effects on important natural resources.
  - ☑️ Enforce performance standards to prevent development or land uses from generating fumes, dust, odor, smoke, noise, glare or similar impacts that would adversely affect adjoining properties.
  - ☑️ Require applicants to bear the cost of any special studies or technical review necessitated by an application such as traffic studies, fiscal impact studies, engineering review, landscaping evaluation or legal review.

Ongoing by Development Review Board,  
Planning Commission and Selectboard.

- 18** Regulate land subdivision in a manner that ensures the pattern of future development does not adversely affect the town's natural features, rural resources and scenic character, and maintain and strengthen the subdivision regulations as necessary to:
- ☑️ Ensure adequate erosion control and stormwater management;
  - ☑️ Require the delineation of a building envelope for each new lot;
  - ☑️ Require conservation subdivision design with permanently protected open space in rural areas;
  - ☑️ Require the maintenance of public trails, either in their existing configuration or in a replacement alignment that provides a comparable function and amenity, and dedication of proposed trail easements consistent with plans for a town-wide trail network;
  - ☑️ Ensure that new development does not result in adverse impacts on traffic safety and efficiency;

Ongoing by Development Review Board,  
Planning Commission and Selectboard.



- 19** Maintain and strengthen Warren’s Land Use and Development Regulations for the purpose of protecting significant forest resources and headwater streams and limiting development in areas with steep slopes, shallow soils, critical wildlife habitat and contiguous habitat units, fragile features, scenic resources, and limited access to existing roads, facilities and services. To this end in the areas currently zoned Forest Reserve,
- ☐☐ Consider whether future changes to the zoning district standards or boundary are necessary.
  - ☐☐ Continue to limit the overall residential density to not more than one dwelling per 25 acres.
  - ☐☐ Continue to make all development, other than agriculture and forestry, subject to conditional use approval.
  - ☐☐ Ensure that critical wildlife habitat is protected from development and that fragmentation of forest land is minimized.
  - ☐☐ Ensure that new development is sited and landscaped in manner which limits the visual impact of hillside development.
  - ☐☐ Prohibit development within the Slide Brook watershed other than routine maintenance necessary to allow the continued operation of the Inter-tie Lift connecting Lincoln Peak and Mount Ellen.
  - ☐☐ Limit forest management within the Slide Brook watershed to those activities designed to preserve and enhance bear habitat.

Ongoing by Planning Commission and Selectboard.

- 20** Maintain and strengthen Warren’s Land Use and Development Regulations for the purposes of managing residential development in a manner that supports continued agricultural and forest management and preserves rural character and open space. To that end in the areas currently zoned Rural Residential (RR) District:
- ☐☐ Consider whether future changes to the zoning district standards or boundaries are necessary.
  - ☐☐ Consider additional regulatory approaches to protect riparian areas and wildlife corridors and habitat.
  - ☐☐ Reduce the overall residential density allowed to not more than one dwelling per 2 acres of buildable land (land that is not steep, wetlands, floodplain, etc.).
  - ☐☐ Investigate regulatory approaches that would take other factors into consideration such as road classification, distance to existing settlement areas or the size of the parent parcel when determining maximum residential density.
  - ☐☐ Guide development away from and require conservation of productive farmland and primary agricultural soils to the greatest extent feasible.
  - ☐☐ Allow businesses such as on-farm processing, agri-tourism or outdoor recreation that are dependent on or connected to the rural landscape or resources with adequate standards to prevent undue adverse impacts to surrounding properties.

Ongoing by Planning Commission and Selectboard.



<p><b>21</b> Maintain and strengthen Warren’s Land Use and Development Regulations to preserve an adequate land base for agriculture, prevent the conversion of farm land and agricultural soils to other uses, and preserve the scenic qualities of the landscape in the areas currently included in the Meadowland Overlay District (MO).</p>	<p>Ongoing by Development Review Board, Planning Commission and Selectboard.</p>
<p><b>22</b> Maintain the Special Flood Hazard and River Corridor Overlay District provisions and update as needed to maintain the town’s eligibility for the National Flood Insurance Program and to enhance disaster preparedness and resiliency. To that end:</p> <ul style="list-style-type: none"> <li>☐☐ Continue to limit development in hazard areas to those activities or structures related to the continued use of existing development, recreation, or water-dependent uses.</li> </ul>	<p>Ongoing by Zoning Administrator, Development Review Board, Planning Commission and Selectboard.</p>
<p><b>23</b> Use the Land Use and Development Regulations to require:</p> <ul style="list-style-type: none"> <li>☐☐ Maintenance of an undisturbed, naturally vegetated buffer at least 50 feet wide along all mapped surface waters.</li> <li>☐☐ Any development within mapped source water protection areas to be designed to prevent potential contamination of drinking water supplies.</li> <li>☐☐ Adequate erosion control during construction and until all disturbed soils are stabilized after construction so they are not at risk of erosion.</li> <li>☐☐ Adequate post-construction soil quality so that disturbed soils will be able to absorb stormwater and support healthy vegetation.</li> <li>☐☐ Adequate stormwater management so that run-off is managed through on-site green stormwater practices prior to being discharged to surface waters or public infrastructure.</li> <li>☐☐ Any non-exempt forest management activities to comply, at a minimum, with the Acceptable Management Practices for Maintaining Water Quality on Logging Jobs in Vermont (AMPs).</li> </ul>	<p>Ongoing by Zoning Administrator and Development Review Board.</p>
<p><b>24</b> Use the Land Use and Development Regulations to:</p> <ul style="list-style-type: none"> <li>☐☐ Allow businesses that produce, process and/or market locally produced agricultural and forestry products.</li> <li>☐☐ Allow commercial and non-commercial recreation uses that will expand Warren’s tourism season and offerings, and the use of farm and forest land.</li> <li>☐☐ Protect identified trail corridors, including the Long Trail and Catamount Trail during the subdivision or development review process.</li> </ul>	<p>Ongoing by Zoning Administrator, Development Review Board, Planning Commission and Selectboard.</p>



<p><b>25</b> Use the Land Use and Development Regulations to:</p> <ul style="list-style-type: none"> <li>☑️ Maintain a high quality of site and building design for commercial and multi-family land uses with signage, landscaping and other standards that fit new development into its surroundings and minimize the visual impact of parking, service and storage areas.</li> <li>☑️ Prevent strip development (commercial development occurring in a linear pattern along major road corridors) along Route 100, the Sugarbush Access Road and German Flats Road.</li> <li>☑️ Promote clustered, compact development patterns that minimize land consumption, the amount of impervious surface created, and the width of roads and drives.</li> <li>☑️ Encourage innovation in energy conservation and energy efficiency.</li> </ul>	<p>Ongoing by Zoning Administrator and Development Review Board.</p>
<p><b>26</b> To promote energy conservation, efficiency and conversion to renewable energy sources, encourage:</p> <ul style="list-style-type: none"> <li>☑️ Maximum conservation to electricity, particularly in those applications where it functions most efficiently, such as lighting, motor operation, and certain industrial processes.</li> <li>☑️ Employers to provide incentives to promote energy efficient commuting (e.g. ride sharing, bicycling, Valley public transit).</li> <li>☑️ Development of renewable energy projects (solar, wind) to enable town residents who do not have the appropriate landscape to take advantage of renewable energy initiatives at off-site locations (grid tied).</li> <li>☑️ Home occupations and larger home-based businesses to minimize commuting to work.</li> </ul>	<p>Ongoing by Energy Committee.</p>
<p><b>27</b> Amend the Land Use and Development Regulations to develop standards for off-the grid energy generation facilities.</p>	<p>Short-term by Energy Committee and Planning Commission.</p>
<p><b>28</b> Develop siting guidelines for developers of wind and solar projects to aid permit process uniformity and weigh community benefits and impacts.</p>	<p>Short-term by Energy Committee, Planning Commission and Selectboard.</p>
<p><b>29</b> Call upon the Public Utilities Commission to require site decommissioning plans for wind and solar projects seeking a Certificate of Public Good to cover deconstruction and remediation upon permanent retirement of each turbine or solar array, where appropriate, as well as the entire site.</p>	<p>Long-term by Energy Committee.</p>



- 30** Encourage development of affordable housing in Warren through all available means, including:
- ☐☐ Consider revising the permit fee structure to reduce costs for affordable and/or small footprint housing and increase costs for high cost and/or large footprint housing.
  - ☐☐ Create an affordable housing fund and consider funding mechanisms for it such as fees on land transfers or lot creation, and permits for vacation units, lodging rooms, or commercial space.
  - ☐☐ Increase awareness and use of existing programs to rehabilitate or improve affordable housing.
  - ☐☐ Implement a tax stabilization program for improvements to existing affordable or rental housing, and for conversion of space in existing buildings into affordable or rental housing.
  - ☐☐ Work with state agencies and nonprofit organizations to develop affordable senior housing in or adjacent to Warren Village.
  - ☐☐ Utilize town owned land for affordable housing.

Short-term by Planning Commission and Selectboard.

- 31** Maintain and strengthen the Land Use and Development Regulations to foster development of a diverse housing stock in Warren, including the following:
- ☐☐ Allow multi-family housing in those areas with good access to public services and facilities.
  - ☐☐ Allow smaller lots and higher densities in those areas with adequate infrastructure and facilities.
  - ☐☐ Consider requiring certain types or scale of commercial development to include residential units in areas with adequate infrastructure.
  - ☐☐ Call upon Sugarbush to develop employee housing appurtenant to the resort property and revise the land use regulations as necessary to facilitate employee housing.
  - ☐☐ Offer density bonus for affordable housing and consider bonuses for other desired housing types such as senior housing, net-zero homes or small-footprint homes.
  - ☐☐ Encourage creative site design that clusters development to minimize construction costs and preserve open space.
  - ☐☐ Investigate alternatives to the conventional measurement of density (dwelling units per acre) such as bedrooms per acre or floor area per acre.
  - ☐☐ Explore incorporating housing replacement provisions into the land use regulations to avoid loss of affordable housing stock.
  - ☐☐ Ensure that housing developed as "affordable housing" includes appropriate legal mechanisms to ensure long-term affordability.

Ongoing by Planning Commission, Development Review Board and Zoning Administrator.



32	Analyze the potential for Alpine Village to accommodate more housing, including conducting a feasibility study to explore options for the safe and effective disposal of wastewater	Long-term by Planning Commission.
33	Ensure that expansion activities at Sugarbush do not adversely affect the cost and availability of housing in Warren and neighboring town through the Memorandum of Understanding between Valley towns, the Mad River Valley Planning District and Sugarbush Resort.	Ongoing by Planning Commission and Selectboard.
34	Explore means with which to support local economic diversification to improve wages and, thus, the ability of local workers to afford local housing, and encourage the creation of jobs that pay a living wage.	Long-term by Planning Commission and Selectboard.
35	Maintain the Airport Commercial (AC) District to permit airport related growth and development associated with the Sugarbush Airport. To this end, uses in the district should be reviewed to allow those uses open to the public (retail, restaurant) to continue only as accessory uses to the operation of the airport and outdoor recreation.	Ongoing by Planning Commission and Selectboard.
36	Maintain and strengthen the Warren Land Use and Development Regulations to allow a range of commercial uses in the vicinity of the Route 100/Access Road intersection. The current the Access Road Commercial (ARC) District should not be extended, although a range of commercial uses should be permitted. Site standards should be developed to require appropriate landscaping, traffic calming and an arrangement of buildings in a manner that reflects a traditional Vermont crossroads settlement.	Ongoing by Planning Commission and Selectboard.
37	Maintain and strengthen the Warren Land Use and Development Regulations to allow for the continued operation and expansion of industrial and associated commercial uses in the Bobbin Mill area. Maintain standards in that area to ensure that commercial traffic access is limited to Route 100, and that substantial buffer areas are established from Lincoln Gap Road within which only residential uses are permitted.	Ongoing by Planning Commission and Selectboard.
38	Maintain and strengthen the Warren Land Use and Development Regulations to encourage the continued viability of the Sugarbush Inn and strengthen the intersection as a compact commercial node with a building pattern and orientation similar to that of the Sugarbush Inn.	Ongoing by Planning Commission and Selectboard.
39	Maintain and strengthen the Warren Land Use and Development Regulations to recognize the distinct settlement pattern of Alpine Village and address associated concerns.	Ongoing by Planning Commission and Selectboard.



**40** Strengthen Warren Village's status as a town center in order to promote its social, governmental, commercial and residential function in the community, while taking special care to protect the residential character and the quality of life enjoyed by Village residents. To this end:

- ☑ Review site design, parking, lighting, setbacks and related standards for development and create standards that will protect and enhance the scale, pattern and character of development that defines the Village.
- ☑ Review the list of permitted and conditional land use allowed in the Warren Village Residential (WVR) District, and eliminate those that could undermine the residential character of the Village, while promoting the establishment of home-based businesses.
- ☑ Review residential density standards and determine whether appropriate locations exist to accommodate higher densities and/or smaller lot sizes in a manner that maintains and enhances existing scale, patterns and character of development in the Village.
- ☑ Add companion wrap-around mixed use district.
- ☑ Renew Village Center Designation and establish Vermont Neighborhood location adjacent to the Designated Village Center.
- ☑ Maintain a viable site in the Village for a Post Office.

Short-term by Planning Commission and Selectboard.

**41** Maintain and strengthen the Warren Land Use and Development Regulations to guide development of a high density, mixed-use urban core with high-density housing, lodging and other tourism-related uses in Sugarbush Village and at the base of Lincoln Peak characterized by:

- ☑ An integrated network of streets;
- ☑ A reasonable mix of building scales, and consistent use of styles and materials;
- ☑ Buildings oriented towards and fronting upon streets (as opposed to large parking areas);
- ☑ Buildings scaled to pedestrians with active, ground-level building facades.
- ☑ Provision of an extensive network of sidewalks and walking paths, and pedestrian-scaled lighting, public spaces, street furniture and similar site amenities.
- ☑ The efficient use of land, including provisions for the development of parking structures, under building parking and transit service.
- ☑ The design of a prominent gateway(s) and substantial undeveloped buffers to provide a sharp contrast between the village center and the lower density surrounding areas.

Ongoing by Planning Commission and Selectboard.



42	<p>Maintain the Sugarbush Village/Lincoln Peak Growth Center as the town's principal growth center to concentrate commercial, recreation and residential land uses associated with the ongoing operation and evolution of Sugarbush Resort as a four-season resort at the base of Lincoln Peak and Sugarbush Village, while allowing a mix of lower density land uses in the surrounding area.</p>	Ongoing by Planning Commission and Selectboard.
43	<p>Maintain and strengthen the Warren Land Use and Development Regulations to:</p> <ul style="list-style-type: none"> <li>☐☐ Allow for the development of seasonal dwellings at moderate density near the ski resort.</li> <li>☐☐ Discourage those land uses (e.g., retail, fast food restaurant) that would conflict with residential uses and could contribute to roadside clutter and strip development.</li> <li>☐☐ Require appropriate landscaping and lighting standards to fit new development into the surrounding landscape.</li> <li>☐☐ Implement appropriate access management by limiting the number and width of curb cuts.</li> <li>☐☐ Establish a interconnected network of sidewalks, walking paths and recreational trails.</li> </ul>	Ongoing by Planning Commission and Selectboard.
44	<p>Maintain and strengthen Warren's Land Use and Development Regulations in accordance with the following principles:</p> <ul style="list-style-type: none"> <li>☐☐ Allow for home-based businesses compatible with Warren's rural character throughout town.</li> <li>☐☐ Concentrate businesses within Warren Village, Sugarbush Village and the base of Lincoln Peak.</li> <li>☐☐ Prohibit strip commercial development along Route 100 and the Sugarbush Access Road.</li> <li>☐☐ Preserve an adequate land base for agriculture and forest management activities.</li> <li>☐☐ Maintain development standards regulating the scale and intensity of commercial development and land use to avoid conflict with neighboring properties or the town's rural character.</li> </ul>	Ongoing by Planning Commission and Selectboard.
45	<p>Review and revise, as necessary, conditional use standards to address the impact of proposed development on the character of the area, the capacity of infrastructure, and the environment.</p>	Short-term by Planning Commission.
46	<p>Review and revise, as necessary, site plan review standards to improve the predictability and consistency of the development review process with clear technical standards for access and circulation, landscaping, outdoor lighting, outdoor use areas, parking and loading areas, screening, service areas and mechanicals and signs.</p>	Short-term by Planning Commission.
47	<p>Review and revise, as necessary, general performance standards to ensure that new and existing land uses do not exceed specific standards for noise, odor, water quality, lighting and related environmental and public health considerations.</p>	Short-term by Planning Commission.



## IMPROVING INFRASTRUCTURE, FACILITIES AND SERVICES

- 48** Manage the pace and scale of development to ensure the adequacy of facilities, services, and roads, and to protect natural resources and the town's rural character. To that end:
- ☐☐ Ensure that new or expanded infrastructure avoids impact to fragile features and natural resources.
  - ☐☐ Require applicants for large-scale projects to demonstrate that the proposed development will not result in an undue financial burden on the town or exceed the school district's ability to provide adequate educational programs and facilities.
  - ☐☐ Require phasing of large-scale projects when necessary to ensure that the rate of development does not overburden town services and facilities.
  - ☐☐ Require developers to provide private facilities and services when necessary to overburdening municipal facilities and services, including roads, water, sewer and policing, and to provide assurances to protect the town from assuming responsibility for private facilities or services.
  - ☐☐ Require developers to be responsible for any transportation improvements and related mitigation necessary to ensure projects do not significantly diminish traffic safety or existing levels of service.
  - ☐☐ Continue to require development to accommodate firefighting needs including such provisions as reservoirs, hydrants, standpipes, fire ponds and turnarounds.
  - ☐☐ Support the implementation of the Sugarbush Mountain Master Plan consistent with the Memorandum of Understanding between Valley towns and Sugarbush.
  - ☐☐ Continue to ensure that expansion and development activities at Sugarbush do not exceed the current or planned capacity of facilities, services, roads, electricity grid and other infrastructure through the Memorandum of Understanding administered by the MRVPD.
  - ☐☐ Maintain Route 100, the Sugarbush Access Road and the German Flats Road as the primary travel routes for recreation-related traffic and means of access for resort-related development; and discourage the use of Roxbury Mountain Road, Lincoln Gap Road, West Hill Road and Golf Course Road for such purposes.
  - ☐☐ Require new large-scale development to implement travel demand management techniques as necessary to maintain traffic safety and existing levels of service such as but not limited to satellite parking, use of public transit, or other options to improve traffic flow.
  - ☐☐ Do not extend sewer service beyond the Sugarbush Village/Lincoln Peak growth center and Warren Village boundaries except as needed to address clear threats to public health and safety.
  - ☐☐ Upgrade roads in relation to the desired scale and capacity of growth centers.
  - ☐☐ Explore the possibility of a municipal water system for Warren Village.

Ongoing by Planning Commission, Development Review Board, Zoning Administrator and Selectboard.



<p><b>49</b> Implement the Master Plan for Municipal Facilities. To that end:</p> <ul style="list-style-type: none"> <li>☐☐ Plan for all governmental facilities requiring frequent and regular public access, such as the municipal offices, Town Hall, library and post office, to remain in Warren Village.</li> <li>☐☐ Develop an implementation priority, a phasing plan and a budget to support the Master Plan for Municipal Facilities.</li> <li>☐☐ Negotiate for rights to key parcels adjacent to the municipal complex.</li> <li>☐☐ Acquire property, where appropriate, to enable necessary growth in town government facilities.</li> <li>☐☐ Continue efforts to expand and enhance the Municipal Building or other alternatives to the Municipal Building.</li> <li>☐☐ Correct deficiencies and make improvements at the current Town Garage location or create a new Town Garage facility at the alternative sites that have been identified.</li> <li>☐☐ Take corrective measures to reduce energy use in municipal buildings by implementing recommendations from 2008 Energy Audit.</li> <li>☐☐ Develop a plan for emergency power generation for all town buildings.</li> </ul>	<p>Long-term by Planning Commission and Selectboard.</p>
<p><b>50</b> Encourage and support private organizations and service providers currently serving Warren residents by:</p> <ul style="list-style-type: none"> <li>☐☐ Making special appropriations to such organizations through the town budget process.</li> <li>☐☐ Continuing to support the Mad River Valley Seniors.</li> <li>☐☐ Continuing to support the Valley Community Fund and the Valley Food Shelf.</li> <li>☐☐ Addressing any town-level regulatory barriers to increasing child care capacity.</li> <li>☐☐ Assessing whether any town facilities could be used for child care.</li> <li>☐☐ Supporting and increasing awareness of energy efficiency and weatherization programs.</li> <li>☐☐ Continuing to actively membership in the Central Vermont Solid Waste District and calling for ongoing operation of the Valley Transfer Station.</li> </ul>	<p>Ongoing by Selectboard and voters.</p>
<p><b>51</b> Continue to support state and regional public transportation systems, including the Valley transit system, and ensure continued service to Warren Village. To that end:</p> <ul style="list-style-type: none"> <li>☐☐ Encourage additional coordination between Warren/Sugarbush and Waterbury with Amtrak schedules to encourage more mass transit use between Amtrak and the Valley.</li> <li>☐☐ Support the continued operation of the Mad Bus.</li> </ul>	<p>Ongoing by Selectboard, Energy Committee and voters.</p>



- 52** Develop a long-term roadway improvement program that assesses the town’s transportation system’s current conditions, desired conditions, deferred maintenance needs and levels of routine maintenance needed to sustain desired conditions. To that end:
- ▣▣ Develop and carry out a program for roadway and intersection improvements, as needed, along the network of major collector roads.
  - ▣▣ Maintain the scale, rural quality, and capacity of secondary roads during improvement and maintenance procedures.
  - ▣▣ Coordinate the protection of those features within the road right-of-way that contribute to the scenic character of individual roads with road maintenance and improvement projects.
  - ▣▣ Evaluate parking needs and opportunities in Warren Village and Sugarbush Village.
  - ▣▣ Ensure that the historic integrity of the Warren Village Covered Bridge is maintained when it is repaired.
  - ▣▣ Seek innovative funding sources to improve safety, congestion, erosion, and aesthetic problems on highways and bridges.
  - ▣▣ Coordinate curb cut permits with development review and long range planning.
  - ▣▣ Require that all new roads and all private road and driveway intersections with town roads meet minimum safety and design standards through curb cut permits and the Land Use and Development Regulations.

Long-term by Selectboard, Planning Commission and town staff.

- 53** Support the development of recreation and cultural facilities in Warren and the Valley that contribute to the area’s quality of life and attractiveness as a resort destination including:
- ▣▣ Improving the Town Hall as necessary to make greater use of the building for cultural performances and exhibitions.
  - ▣▣ Supporting the use of the East Warren School for community-oriented activities.
  - ▣▣ Supporting the establishment of a permanent performing arts facility at the base of Lincoln Peak.
  - ▣▣ Supporting the efforts of the Warren Historical Society to preserve and promote the town’s history and to establish a Warren Historic Museum.
  - ▣▣ Expanding existing walking and bicycling paths and trails and ensuring that future development is designed to accommodate pedestrian connections between properties.
  - ▣▣ Continuing to maintain and upgrade the Brooks Recreation Field, and to make that facility available for suitable, special events which serve the local community.

Ongoing by Planning Commission, Historical Society, Warren Arts Committee and Selectboard.



54	<p>Complete and implement a recreation and pedestrian path network plan for Warren including:</p> <ul style="list-style-type: none"> <li>☐☐ A coordinated plan for an integrated pedestrian network of paths and sidewalks, and for roadway improvements to accommodate pedestrians and bicyclists.</li> <li>☐☐ Recommended improvements to pedestrian circulation within Warren Village and the Lincoln Peak/Sugarbush Village growth center.</li> <li>☐☐ Support for Vermont Agency of Transportation’s striping and signage efforts to establish a dedicated bicycle lane on Route 100.</li> <li>☐☐ Policies that would require new or improved Class 2 or 3 roads and bridges to include context-appropriate accommodations for pedestrians and bicyclists.</li> <li>☐☐ Preservation of Class 4 road rights-of-way for recreational use.</li> <li>☐☐ Options for preserving the network of trails on private property associated with Ole’s Cross Country Ski and Snowshoe Center.</li> <li>☐☐ A program for the donation or provision of path easements from landowners and developers to enable creation of paths.</li> <li>☐☐ Recommended revisions to the land use regulations to require dedication of pathway easements through the development review process.</li> <li>☐☐ A program to encourage property owners to maintain or open their land for recreational access.</li> <li>☐☐ A plan to maintain and enhance Riverside Park for public recreation and river access with specific attention to pedestrians and cyclists.</li> <li>☐☐ Options for an expansion of recreation facilities at Brooks Field.</li> <li>☐☐ A program for allocating money from the town’s Conservation Reserve Fund to path and recreation projects.</li> </ul>	Short-term by Planning Commission.
55	<p>Continue to provide sufficient and appropriate space in Warren to meet the town’s current and projected educational needs. To that end:</p> <ul style="list-style-type: none"> <li>☐☐ Ensure the amount and rate of growth does not exceed the school’s ability to provide adequate educational programs and facilities for students and other programs and services to the community.</li> <li>☐☐ Continue to operate the school and grounds as models for responsible citizenship and environmental stewardship.</li> </ul>	Ongoing by Planning Commission, Selectboard and School District.
56	<p>Continue to require undergrounding when utility lines are extended to service new development whenever possible in order to minimize adverse impacts on the town’s scenic landscape.</p>	Ongoing by Zoning Administrator and Development Review Board.



57	Balance support for development of solar and small-scale wind energy generation and wireless communications with the town's values for its scenic landscape and rural character by carefully review the placement of such structures.	Ongoing by Zoning Administrator, Development Review Board, Planning Commission and Selectboard.
58	Promote the continued upgrade and expansion of the telecommunications infrastructure in town to support the ability of local residents to work at home and telecommute to other locations.	Ongoing by Planning Commission and Selectboard.

4.3.04 **PROMOTING EFFECTIVE, EFFICIENT AND RESPONSIBLE GOVERNANCE**

59	<p>Include potentially affected parties early in planning and decision-making processes. To that end:</p> <ul style="list-style-type: none"> <li>☑ Inform the public of governmental activities on a regular basis using hearings, forums, direct mailings, the town's web site, the Valley Reporter, and the Vermont Journal.</li> <li>☑ Solicit additional public input through the use of surveys and questionnaires.</li> <li>☑ Recognize statutory hearing requirements as a minimum level of public involvement and exceed that minimum in all instances where public interest is evident.</li> <li>☑ Require a public hearing and notification of adjacent landowners for all conditional use, subdivision, PRD and PUD applications in accordance with state statute.</li> <li>☑ Provide neighboring towns with an opportunity to comment on local matters of concern through notification of pending decisions which may affect them.</li> </ul>	Ongoing by all town boards and committees.
60	Seek balanced representation of the town's diverse population on boards and committees.	Ongoing by Selectboard.
61	Upgrade and maintain a comprehensive permit tracking and record keeping system.	Short-term by Zoning Administrator.
62	Consider the development and adoption of an Official Map (§4422) to identify future road and trail improvements and important open space.	Long-term by Planning Commission and Selectboard.
63	<p>Support and participate in the Mad River Valley Planning District as a means of addressing issues of valley-wide concern. To that end:</p> <ul style="list-style-type: none"> <li>☑ Support the Memorandum of Understanding between Valley towns and Sugarbush Resort to maintain a balance between ski area expansion and the Valley's capacity to accommodate additional resort-related growth and activity.</li> <li>☑ Support the efforts of the Mad River Valley Rural Resource Commission related to historic preservation planning and public education.</li> </ul>	Ongoing by Selectboard and Planning Commission.



- 64** Explore opportunities to form, support and/or participate in regional or inter-town entities to provide services in a cost-effective manner. To that end:
- ☐ Investigate future firefighting and police protection needs and alternatives for meeting those needs in conjunction with other Valley towns.
  - ☐ Continue to support the Mad River Valley Ambulance Service.
  - ☐ Continue to support and participate in organizations such as the Mad River Valley Planning District, Mad River Valley Recreation District, Central Vermont Regional Planning Commission, Mad River Valley-Waterbury Solid Waste Alliance, and Harwood Unified Union School District.
  - ☐ Support the efforts of the Mad River Path Association, Vermont Association of Snow Travelers, Catamount Trail Association, U.S. Forest Service and other parties to create and maintain an integrated trail network throughout town.
  - ☐ Encourage and support the efforts of the Friends of the Mad River and the Mad Path's efforts to create a continuous bike path.
  - ☐ Continue to support the Central Vermont Economic Development Corporation and encourage that entity to become more responsive to the town's economic development needs.
  - ☐ Continue to work with the Mad River Valley Chamber of Commerce to foster local business recruitment and economic development programs.
  - ☐ Foster cooperation between the various child care facilities in the Valley to improve service and availability.
  - ☐ Support the Mad River Valley Health Center's continued operation and service to the community.

Ongoing by Selectboard, Planning Commission, town staff and appointed representatives.

- 65** Review and update the Land Use Regulations. To that end:
- ☐ Revise the Land Use Regulations as necessary when there are changes to this plan, state statute and regulations, or case law.
  - ☐ Make substantive revisions to the Land Use and Development Regulations identified elsewhere in this plan.
  - ☐ Consider options for allowing minor amendments to the final plats for subdivisions and Planned Residential and Planned Unit Development through an administrative process.
  - ☐ Consider enabling waivers as set forth in 24 V.S.A. § 4414.
  - ☐ Review current administration and enforcement practices related to the Land Use and Development Regulations and ensure that all standards and associated permit conditions are efficiently administered and strictly enforced.

Periodically by Planning Commission.



66	<p>Refer to the goals, objectives and strategies set forth in this Town Plan during all site plan, conditional use, waiver, Planned Unit Development, and subdivision reviews and all state and federal regulatory reviews. To that end:</p> <ul style="list-style-type: none"> <li>☐☐ Participate in Act 250 and other state legislative, planning, policy, project development and permitting processes to ensure that Warren has input on state decisions affecting the town.</li> <li>☐☐ Encourage the continued input from the Warren Conservation Commission on Development Review Board Subdivision applications.</li> </ul>	Ongoing by Development Review Board, Planning Commission, Conservation Commission and Selectboard.
67	Continue to contribute to the town's Conservation Reserve Fund and to task the Conservation Commission with coordinating expenditures from that fund.	Ongoing by Conservation Commission, Selectboard and voters.
68	Continue to administer the standards in the Flood Hazard Overlay District in the Land Use and Development Regulations, and update them as needed to maintain town eligibility in the National Flood Insurance Program and as river conditions change.	Ongoing by Zoning Administrator, Development Review Board, Planning Commission and Selectboard.
69	<p>Participate in joint, coordinated efforts to monitor and address affordable housing needs within the Mad River Valley (through the MRVPD) and the Central Vermont Region (through the CVRPC). To that end:</p> <ul style="list-style-type: none"> <li>☐☐ Support the Mad River Valley Housing Coalition, or any other locally based non-profit organization dedicated to the provision of affordable housing, to address housing needs in the Valley.</li> <li>☐☐ Discourage actions by the town and other entities that would result in the elimination of existing affordable housing stock.</li> <li>☐☐ Monitor the impact of ski area expansion on the Valley's housing market and take action to mitigate adverse impacts as deemed appropriate.</li> <li>☐☐ Review regional housing recommendations included in the regional plan or related housing studies for consideration in local housing programs and/or regulations as appropriate.</li> </ul>	Ongoing by Planning Commission and Selectboard.
70	Continue ongoing contact with Green Mountain Power regarding growth and future electrical capacity issues.	Periodically by Energy Committee, Planning Commission and Selectboard.



<p><b>71</b> Educate citizens about the need for sustainable energy practices. To that end:</p> <ul style="list-style-type: none"> <li>☐☐ Provide technical information to builders and developers.</li> <li>☐☐ Provide potential applicants with an energy efficiency and conservation checklist as part of the zoning permit application process.</li> <li>☐☐ Make new public buildings models of energy efficiency.</li> <li>☐☐ Educate and encourage local residents to embrace more energy efficient transportation initiatives including carpooling and electric vehicle use.</li> <li>☐☐ Develop an active and comprehensive ride sharing program.</li> <li>☐☐ Call upon the school district to integrate local energy issues into education curricula.</li> </ul>	<p>Ongoing by Energy Committee, Zoning Administrator, Planning Commission, Selectboard and School District.</p>
<p><b>72</b> Work with the Vermont Agency of Transportation and legislature to ensure that all road and bridge construction shall balance capacity requirements with scenic impacts to ensure that rural residential roads and bridges are not over-built to urban standards</p>	<p>Periodically by Planning Commission and Selectboard.</p>
<p><b>73</b> Adopt "Better Back Roads" and the Vermont Agency of Transportation 1996 Design Standards.</p>	<p>Short-term by Selectboard.</p>
<p><b>74</b> Explore ways to coordinate transportation planning, road maintenance and improvements with neighboring towns. To that end:</p> <ul style="list-style-type: none"> <li>☐☐ Continue regional transportation planning through the Mad River Valley Planning District, Mad River Valley Transportation Advisory Committee and Central Vermont Regional Planning Commission.</li> <li>☐☐ Work with neighboring towns to ensure that proposed developments in those towns will not overburden Warren's transportation system.</li> <li>☐☐ Coordinate with others to facilitate and implement a regional public transportation system.</li> </ul>	<p>Long-term by Selectboard.</p>
<p><b>75</b> Maintain the Capital Budget and Program to forecast capital needs and plan expenditures in a coordinated manner for new or improved public roads, infrastructure buildings, vehicles, equipment, lands or facilities. To that end:</p> <ul style="list-style-type: none"> <li>☐☐ Ensure that capital improvements are coordinated with the land use policies of this plan.</li> <li>☐☐ Evaluate development proposals for demands on municipal facilities, services and roads.</li> <li>☐☐ Consider the need for, and levy as deemed appropriate, impact fees in accordance with statute.</li> <li>☐☐ Locate and acquire a suitable source of gravel to provide for the Town's future gravel needs.</li> </ul>	<p>Ongoing by Planning Commission, town staff and Selectboard.</p>



## Municipal Breakout - Energy Data

The following is a breakout of current and future energy use and targets for the Town of Warren.

The intent of the Municipal Template is to provide the municipality with data that can be used to ensure compliance with the requirements of Act 174 and “Enhanced Energy Planning” (24 V.S.A. 4352). This document contains data that estimates current energy use and provides targets for future energy use across all sectors (transportation, heating, and electricity). It also sets targets for renewable energy generation within the municipality.

This data is meant to be a starting point for the municipality to begin planning its energy future and to talk about the changes that may need to occur within the municipality to ensure that local, regional and state energy goals are met. This includes the goal that 90% of all energy demand be met by renewable sources by 2050.

Estimates of current energy use consist primarily of data available from the American Community Survey (ACS), the Vermont Agency of Transportation (VTrans), the Vermont Department of Labor (DOL), and the Vermont Department of Public Service (DPS). Targets for future energy use are reliant upon the Long-range Energy Alternatives Planning (LEAP) analysis for the region completed by the Vermont Energy Investment Corporation (VEIC). Targets for future energy generation have come from the regional planning commission and DPS. For more information on LEAP, see [CVRPC's website](#). Targets for both future energy use and energy generation have been generally developed using a “top down” method of disaggregating regional data to the municipal level. This should be kept in mind when reviewing the template. It is certainly possible to develop “bottom up” data. For those municipalities interested in that approach, please see the Department of Public Service's Analysis and Targets Guidance.

Figure 1 – Data Sources
ACS – AMERICAN COMMUNITY SURVEY
DOL –VERMONT DEPARTMENT OF LABOR
DPS – VERMONT DEPARTMENT OF PUBLIC SERVICE
EIA – ENERGY INFORMATION ADMINISTRATION
EVT – EFFICIENCY VERMONT
LEAP – LONG-RANGE ENERGY ALTERNATIVES PLANNING
VEIC – VERMONT ENERGY INVESTMENT CORPORATION
VTRANS – VERMONT AGENCY OF TRANSPORTATION

*DISCLAIMER: The information contained herein represents estimated conditions based on current available data. It is intended to be a representation of possible conditions and should be used for planning purposes only. More in-depth analysis or evaluation should be done to verify or confirm actual conditions for each scenario represented as errors or omissions may exist within the data.*

There are some shortcomings and limitations associated the data used in the Municipal Template. For instance, assumptions used to create the LEAP analysis are slightly different than assumptions used to calculate current municipal energy use. Regardless, the targets established here show the direction in which change needs to occur to meet local, regional and state energy goals. It is important to remember that the targets established by LEAP represents only on way to achieve energy goals. There may several other similar pathways that a municipality may choose to take in order to meet the 90x50 goal.

The Department of Public Service's municipal standards are viewable [here](#). The following is instruction language that is found in the Analysis and Mapping Sections of the standards:

*“For the Analysis & Targets determination standards, municipalities will be provided with analyses and targets derived from regional analyses and targets no later than April 30, 2017. Municipalities may choose to rely on these “municipalized” analyses and targets to meet the standards in this section. Municipalities which elect to use the analysis and targets provided by a region will be presumed to have met the standards in this section. Alternatively, municipalities may develop their own custom analyses and targets or supplement the analyses and targets provided by the regions with specific local data; if this option is chosen, the analysis and targets must include all of the same components and meet the standards required of regions, as described below.*

....

*Plans must include maps that address all of the standards, unless N/A is provided as an option, in which case a compelling reason why the standard is not applicable or relevant should be provided in the Notes column. Regions must develop their own maps, and to then break out the maps for their municipalities, who can use their region-provided maps to meet the municipal Mapping standards.*

*Municipalities may choose to rely on the maps provided by the regions to meet the standards in this section. Alternatively, municipalities may choose to undertake their own mapping, according to the same set of standards as regions. Additionally, municipalities are expected to work collaboratively with their regions and with neighboring municipalities to ensure compatibility between the final products.”*

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Below is the municipal data that can be used to ensure compliance with the requirements of Act 174 and “Enhanced Energy Planning” (24 V.S.A. 4352):

1. Municipal Summary

The Municipal Summary worksheet summarizes the type of data that is required to be in the Municipal Plan if the plan is to meet the “determination” standards established by the Vermont Department of Public Service.

Table 1A. Current Municipal Transportation Energy Use

Transportation Data	Municipal Data
Total # of Vehicles (ACS 2011-2015)	1,387
Average Miles per Vehicle (VTrans)	12,500
Total Miles Traveled	16,050,000
Average Gallons Used per Vehicle per Year (VTrans)	576
Total Gallons Use per Year	862,903
Transportation BTUs (Billion)	104
Average Cost per Gallon of Gasoline (RPC)	2.31
Gasoline Cost per Year	\$1,993,306.00

This table uses data from the American Community Survey (ACS) and Vermont Agency of Transportation (VTrans) to calculate current transportation energy use and energy costs.

Table 1B. Current Municipal Residential Heating Energy Use

Fuel Source	Municipal Households (ACS 2011-2015)	Municipal % of Households	Municipal Square Footage Heated	Municipal BTU (in Billions)
Natural Gas	3	0.4%	4,605	0.28
Propane	406	54.6%	664,020	39.84
Electricity	69	9.3%	100,140	6.01
Fuel Oil	98	13.2%	178,920	10.74
Coal	0	0.0%	0	0.00
Wood	155	20.9%	291,825	17.51
Other (Includes Solar)	0	0.0%	13,800	0.83
No Fuel	12	1.6%	0	0.00
<b>Total</b>	<b>743</b>	<b>100%</b>	<b>1,253,310</b>	<b>75.20</b>

This table displays data from the ACS that estimates current municipal residential heating energy use.

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Table 1C. Current Municipal Commercial Energy Use

	Commercial Establishments in Municipality (VT DOL)	Estimated Thermal Energy BTUs per Commercial Establishment (in Millions) (VDPS)	Estimated Thermal Energy BTUs by Commercial Establishments in Municipality (in Millions)
Municipal Commercial Energy Use	98	611	59,878

This table uses data available from the Vermont Department of Labor (VT DOL) and the Vermont Department of Public Service (DPS) to estimate current municipal commercial establishment energy use in the municipality.

Table 1D. Current Electricity Use

Use Sector	Current Electricity Use
Residential (Efficiency Vermont) (kWh)	15,078,307
Commercial and Industrial (kWh)	9,514,828
Total (kWh)	24,593,135

This table displays current electricity use within the municipality. This data is available from Efficiency Vermont (EVT).

Table 1E. Residential Thermal Efficiency Targets

	2025	2035	2050
Residential – Increased Efficiency and Conservation (% of municipal households to be weatherized)	20%	42%	92%

This table displays targets for thermal efficiency for residential structures based on a methodology developed by DPS using data available from the regional Long-range Energy Alternatives Planning (LEAP) analysis and ACS. The data in this table represents the percentage of municipal households that will need to be weatherized in the target years.

Table 1F. Commercial Thermal Efficiency Targets

	2025	2035	2050
Commercial - Increased Efficiency and Conservation (% of commercial establishments to be weatherized)	22%	33%	61%

This table shows the same information as Table 1E, but sets a target for commercial thermal efficiency. Information from the VT DOL is required to complete this target.

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Table 1G. Thermal Fuel Switching Targets (Residential and Commercial) - Wood Systems

	2025	2035	2050
New Efficient Wood Heat Systems (in units)	4	5	31

This table provides a target for new wood heating systems for residential and commercial structures in the municipality for each target year. This target was calculated using data from LEAP and ACS.

Table 1H. Thermal Fuel Switching Targets (Residential and Commercial) - Heat Pumps

	2025	2035	2050
New Heat Pumps (in units)	75	195	369

This table provides a target for new heat pump systems for residential and commercial structures in the municipality for each target year. This target was calculated using data from LEAP and ACS.

Table 1I. Electricity Efficiency Targets

	2025	2035	2050
Increase Efficiency and Conservation	1.5%	7.3%	15.2%

Data in this table displays a target for increased electricity efficiency and conservation during the target years. These targets were developed using regional LEAP analysis.

Table 1J. Use of Renewables - Transportation

	2025	2035	2050
Renewable Energy Use - Transportation	9.6%	31.3%	90.2%

This data displays targets for the percentage of transportation energy use coming from renewable sources during each target year. This data was developed using the LEAP analysis.

Table 1K. Use of Renewables - Heating

	2025	2035	2050
Renewable Energy Use - Heating	53.6%	67.1%	92.1%

This data displays targets for the percentage of heating energy use coming from renewable sources during each target year. This data was developed using information from the LEAP analysis.

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Table 1L. Use of Renewables - Electricity

	2025	2035	2050
Renewable Energy Use – Electricity (MWh)	2,743	4,389	10,973

This data displays targets for MWh generation coming from renewable sources within the municipality during each target year. This data was developed using information from the regional planning commission and DPS. This data is the same as the data in Table 1Q.

Table 1M. Transportation Fuel Switching Target - Electric Vehicles

	2025	2035	2050
Electric Vehicles	110	762	1,521

This tables displays a target for switching from fossil fuel based vehicles (gasoline and diesel) to electric vehicles. This target is calculated by using LEAP and ACS data.

Table 1N. Transportation Fuel Switching Target - Biodiesel Vehicles

	2025	2035	2050
Biodiesel Vehicles	192	356	578

This tables displays a target for switching from fossil fuel based vehicles to biodiesel-powered vehicles. This target is calculated by using LEAP and ACS data.

Table 1O. Existing Renewable Generation

Renewable Type	MW	MWh
Solar	0.50	611.97
Wind	0.00	6.13
Hydro	0.00	0.00
Biomass	0.00	0.00
Other	0.00	0.00
<b>Total Existing Generation</b>	<b>0.50</b>	<b>618.11</b>

Table 1O shows existing renewable generation in the municipality, in MW and MWh, based on information available from the Vermont Department of Public Service.

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Table 1P. Renewable Generation Potential

Renewable Type	MW	MWh
Rooftop Solar	1.23	1,512
Ground-mounted Solar	345.29	423,458
Wind	2,581.75	7,915,646
Hydro	0.00	0
Biomass and Methane	0.00	0
Other	0.00	0
<b>Total Renewable Generation Potential</b>	<b>2,928.27</b>	<b>8,340,616</b>

Renewable generation potential is based on mapping completed by the regional planning commission that is based on the Municipal Determination Standards and associated guidance documents developed by DPS. The renewable generation potential is expressed in MW and MWh by the type of renewable resource (solar, wind, hydro, etc.).

Table 1Q. Renewable Generation Targets

	2025	2035	2050
Total Renewable Generation Target (in MWh)	2,743	4,389	10,973

Renewable generation targets for municipalities were developed by the regional planning commission.

Table 1R. Sufficient Land

	Y/N
Solar	Y
Wind	Y

This table shows whether or not there is sufficient land in the municipality to meet the renewable generation targets based on the renewable generation potential in the municipality.

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# WARREN Known Constraints Map

## Known Constraints

These constraints signal likely, though not absolute, unsuitability for development based on statewide or local regulation or designated critical resources.

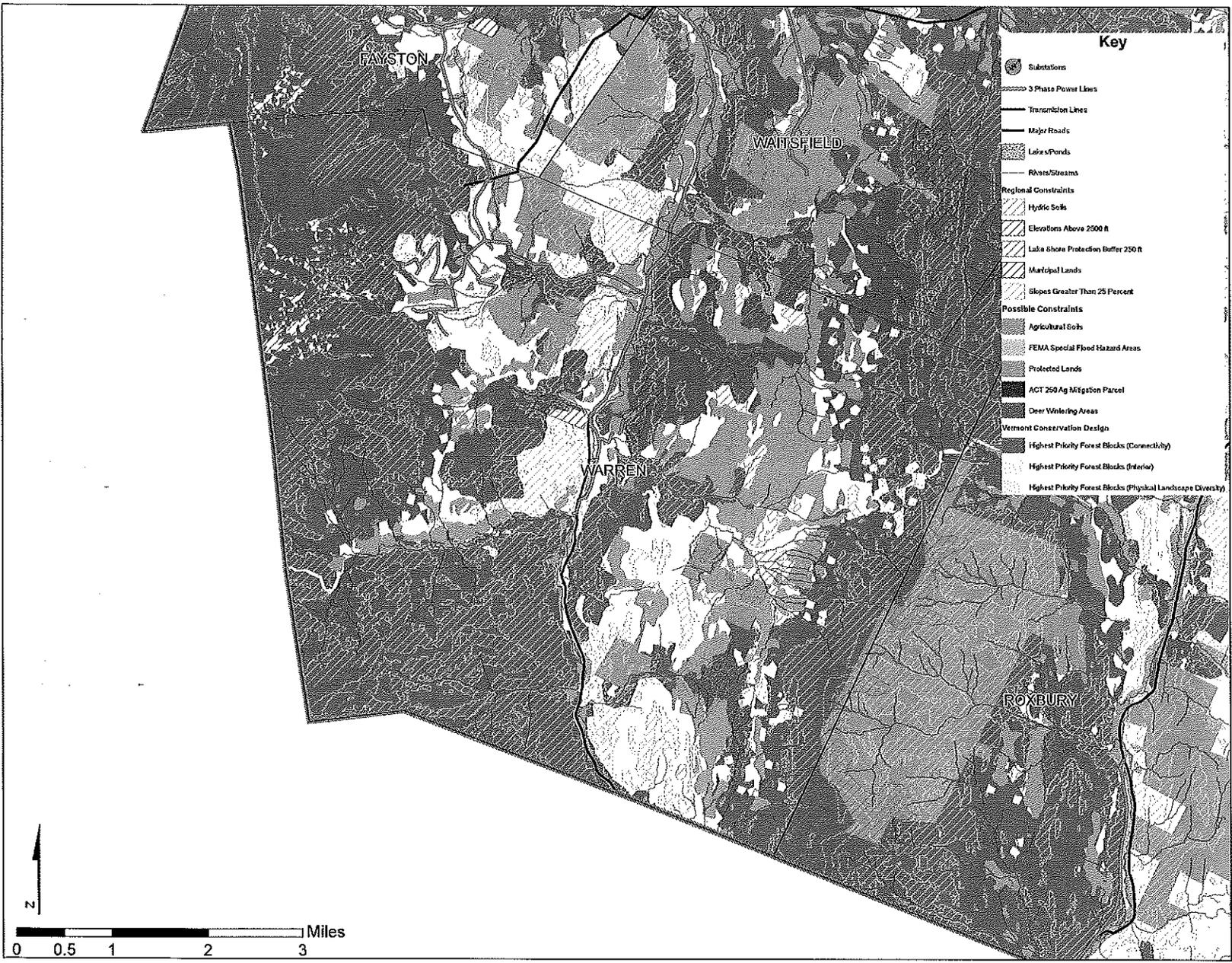
Link to Data - <http://vcgi.vermont.gov/opendata/act174>

Known Constraints  
 Vernal Pools including confirmed and unconfirmed -  
 Vermont Fish and Wildlife  
 DEC River Corridors -  
 DEC WSMD Rivers Program 1/2/15  
 FEMA Floodway included in Zones AE -  
 FEMA Map Service Center  
 State-significant Natural Communities and Rare, Threatened, and Endangered Species -  
 Vermont Fish and Wildlife, Natural Heritage Inventory  
 National Wilderness Areas -  
 USDA Forest Service  
 Class 1 and Class 2 Wetlands (VSWI) and Advisory Layers - VT Watershed Management Division

This map was created as part of a Regional Energy Planning Initiative being conducted by the Bennington County Regional Commission, and the Vermont Public Service Department.

Created: December 2016 by CVRPC GIS.





# WARREN

## Possible Constraints Map

### Possible Constraints

These constraints signals conditions that would likely require mitigation, and which may prove a site unsuitable after site-specific study, based on statewide or regional/local policies that are currently adopted or in effect.

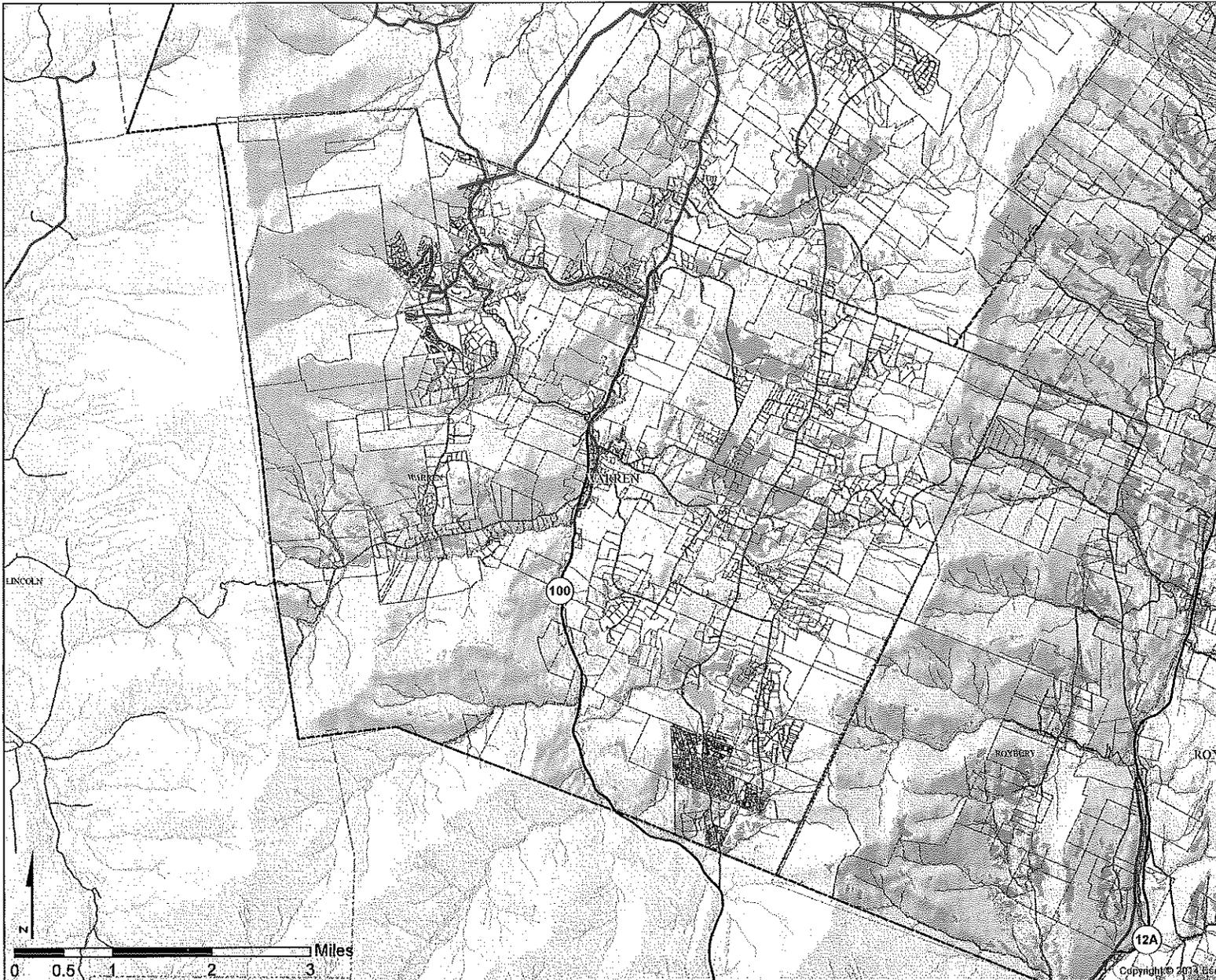
Link to Data - <http://vcgi.vermont.gov/pendata/act174>

**Possible Constraints Data Sources**  
 Agricultural Soils include local, prime and statewide classifications - NRCS  
 FEMA Special Flood Hazard Areas include Zones A and AE - FEMA Map Service Center  
 Protected Lands - include State fee lands and private conservation lands - VCGL  
 Act 250 Ag Mitigation Parcels include parcel as of 2006 - VT Dept. of Ag  
 Deer Wintering Areas - VT Fish and Wildlife  
 Vermont Conservation Design include the following Highest Priority Forest Blocks: Connectivity, Interior, and Physical Landscape Diversity) - VT Fish and Wildlife  
 Hydric Soils include soils that have hydric named components in the map unit - NRCS

This map was created as part of a Regional Energy Planning Initiative being conducted by the Bennington County Regional Commission, and the Vermont Public Service Department.

Created: December 2016 by CVRPC GIS.





# WARREN

## Solar Resources Map

### Legend

- ⊙ Substations
- 3 Phase Power Lines
- Distribution Lines
- Solar Potential**
  - Prime (No Constraint)
  - Secondary (Possible Constraint)
- Parcels
- Roads**
  - Interstate
  - US Highway
  - Vermont State Highway
  - Town Class 1-3

### Known Constraints

- Areas not shown on map
- Vernal Pools
- River Corridors
- FEMA Floodways
- Natural Communities & Rare, Threatened and Endangered Species
- National Wilderness Areas
- Wetlands Class 1 and 2

### Possible Constraints

- VT Agriculturally Important Soils
- FEMA Special Flood Hazard Areas
- Protected Lands
- Act 250 Agricultural Soil Mitigation Areas
- Deer Wintering Areas
- Highest Priority Forest Blocks
- Hydric Soils
- Elevations Above 2500Ft
- Lake Shore Protection Buffer 250 Ft
- Municipal Lands
- Slopes Greater Than 25 Percent

Created by: CVRPC GIS 4/4/2017  
 N:\Region\Projects\2017\Act174\_Energy\SolarResources 11X17

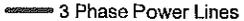
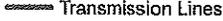
Data is only as accurate as the original source materials.  
 This map is for planning purposes.  
 This map may contain errors and omissions



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# WARREN Wind Resources Map

## Legend

-  Substations
-  3 Phase Power Lines
-  Transmission Lines

## Wind Potential

Prime Wind (No Constraint)  
Hub Height (m)

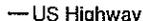


Secondary Wind (Possible Constraint)  
Hub Height (m)

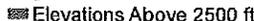


Parcels

## Roads

-  Interstate
-  US Highway
-  Vermont State Highway
-  Town Class 1-3

## Regional Constraints

-  Elevations Above 2500 ft
-  Lake Shore Protection Buffer 250 ft
-  Municipal Lands
-  Slopes Greater Than 25 Percent

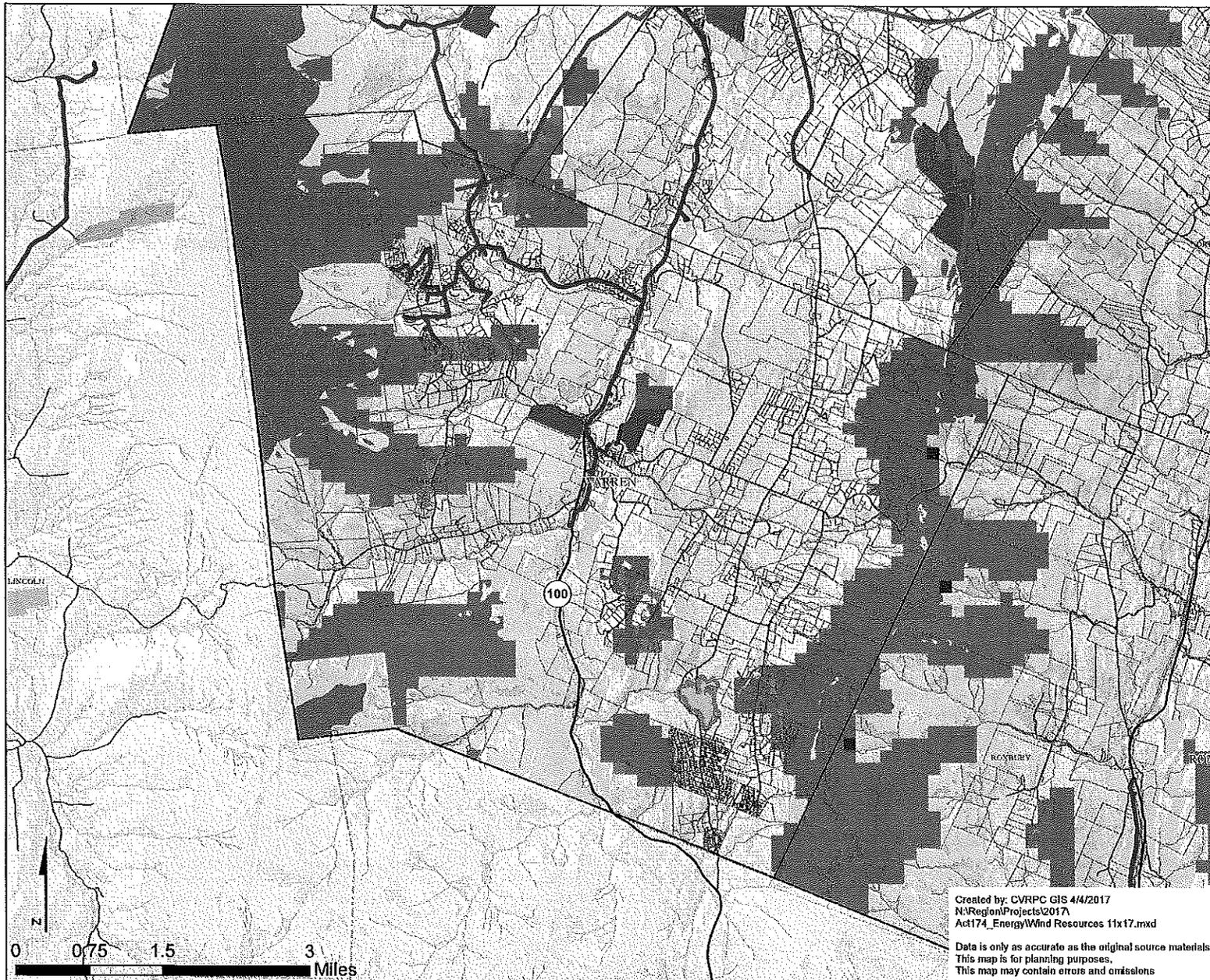
## Known Constraints

Areas not shown on map

- Vernal Pools
- River Corridors
- FEMA Floodways
- Natural Communities & Rare, Threatened and Endangered Species
- National Wilderness Areas
- Wetlands Class 1 and 2

## Possible Constraints

- VT Agriculturally Important Soils
- FEMA Special Flood Hazard Areas
- Protected Lands
- Act 250 Agricultural Soil Mitigation Areas
- Deer Wintering Areas
- Highest Priority Forest Blocks
- Hydic Soils

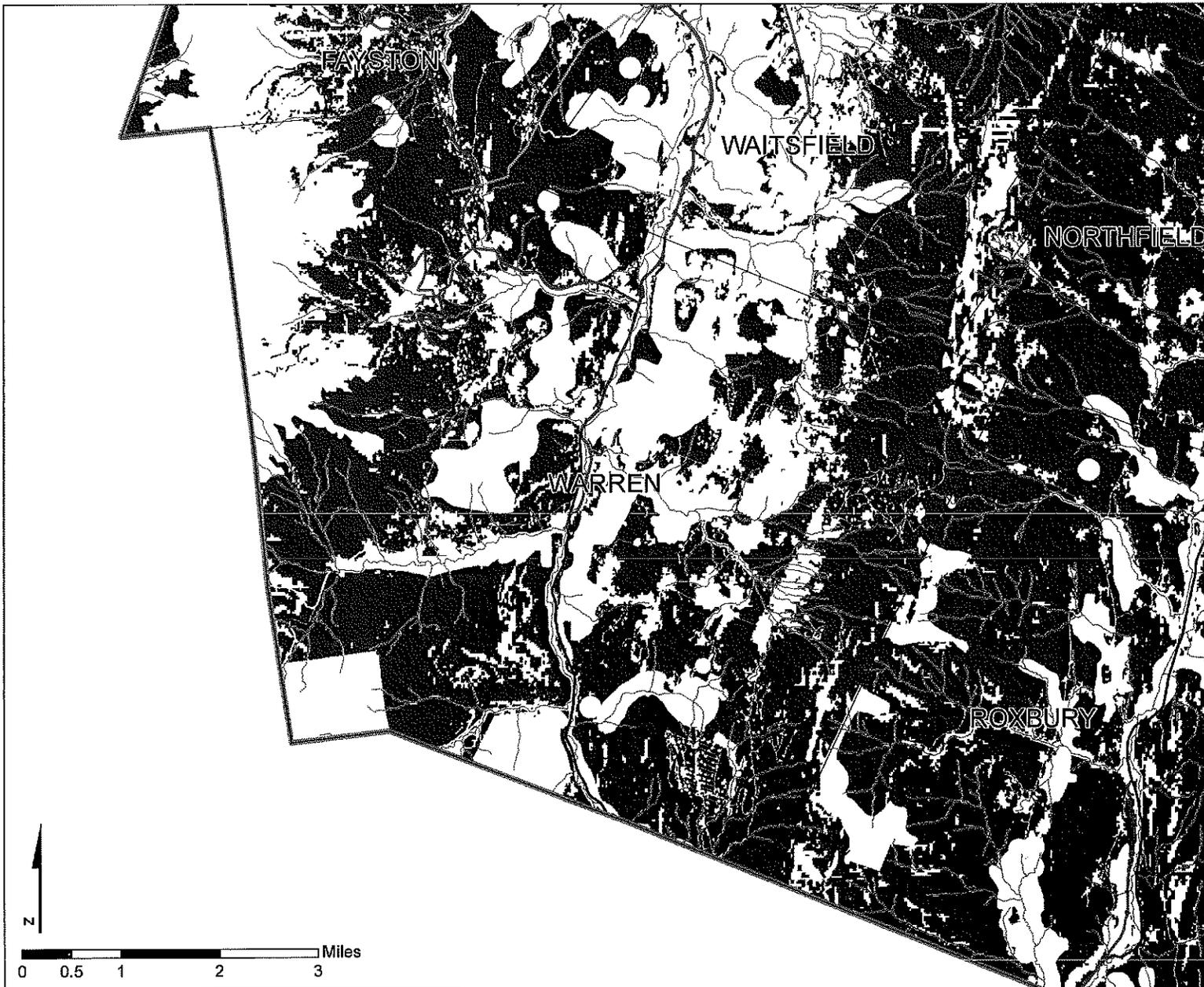


Created by: CVRPC GIS 4/4/2017  
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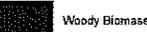
Data is only as accurate as the original source materials.  
This map is for planning purposes.  
This map may contain errors and omissions



# WARREN Woody Biomass Resources Map



### Key

-  Substations
-  3 Phase Power Lines
-  Transmission Lines
-  Major Roads
-  Lakes/Ponds
-  Rivers/Streams
-  Woody Biomass

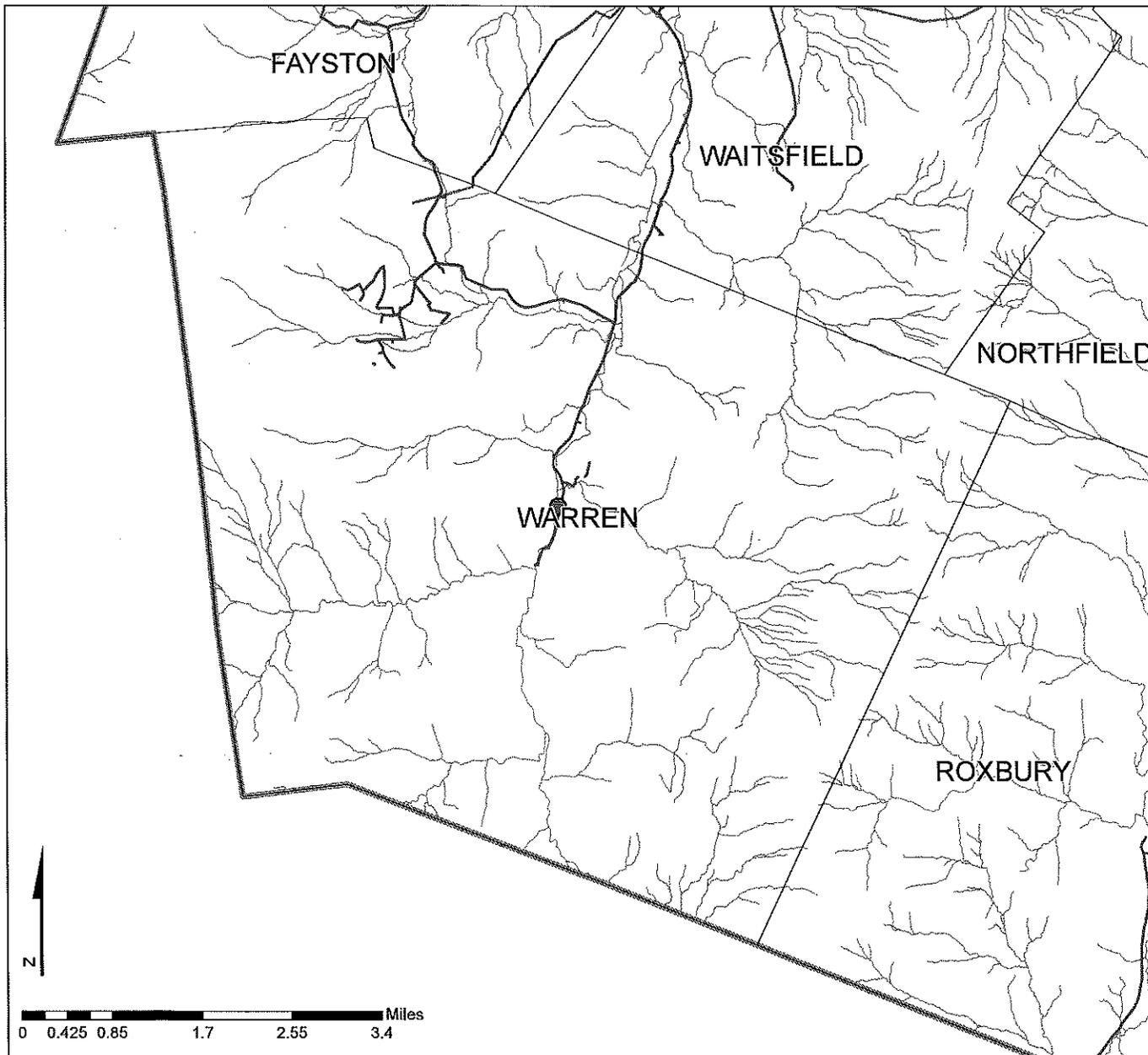
### Methodology

This map shows areas of resource potential for woody biomass, i.e., locations where forested areas are. This map also considers various other conditions, such as ecological zones, that may impact the feasibility of renewable energy/alternative heating source. These conditions are referred to as constraints. This map does not include areas where other types of biomass, such as biomass from agricultural residue, could be grown/harvested.

This map was created as part of a Regional Energy Planning Initiative being conducted by the Bennington County Regional Commission, and the Vermont Public Service Department.

Created: December 2016 by CVRPC GIS.





## WARREN Hydroelectric Resources Map

Key	
	Dam Sites
	Dams on National Wild and Scenic Rivers
	Dams on National Wild and Scenic Rivers
	3 Phase Power Lines
	Transmission Lines
	State Road
	Lakefronts
	Stream/Drains
<b>Potential Hydroelectric Facilities</b>	
	< 50 kW Capacity
	> 50 kW Capacity
	High Hazard with < 50 kW Capacity
	High Hazard with > 50 kW Capacity

### Methodology

This map shows areas of resource potential for renewable energy generation from hydroelectric, i.e., dams that could be converted in to hydroelectric facilities as well as active hydroelectric sites. Existing hydroelectric dam information was extracted from the Vermont Dam Inventory, while potential hydroelectric sites were derived from a study conducted by Community Hydro in 2007.<sup>1</sup> Based on estimates conducted within the report, this map categorizes dams based on their potential hydroelectric generation capacity, and the downstream hazard risk that would be involved in hydroelectric production at each site.

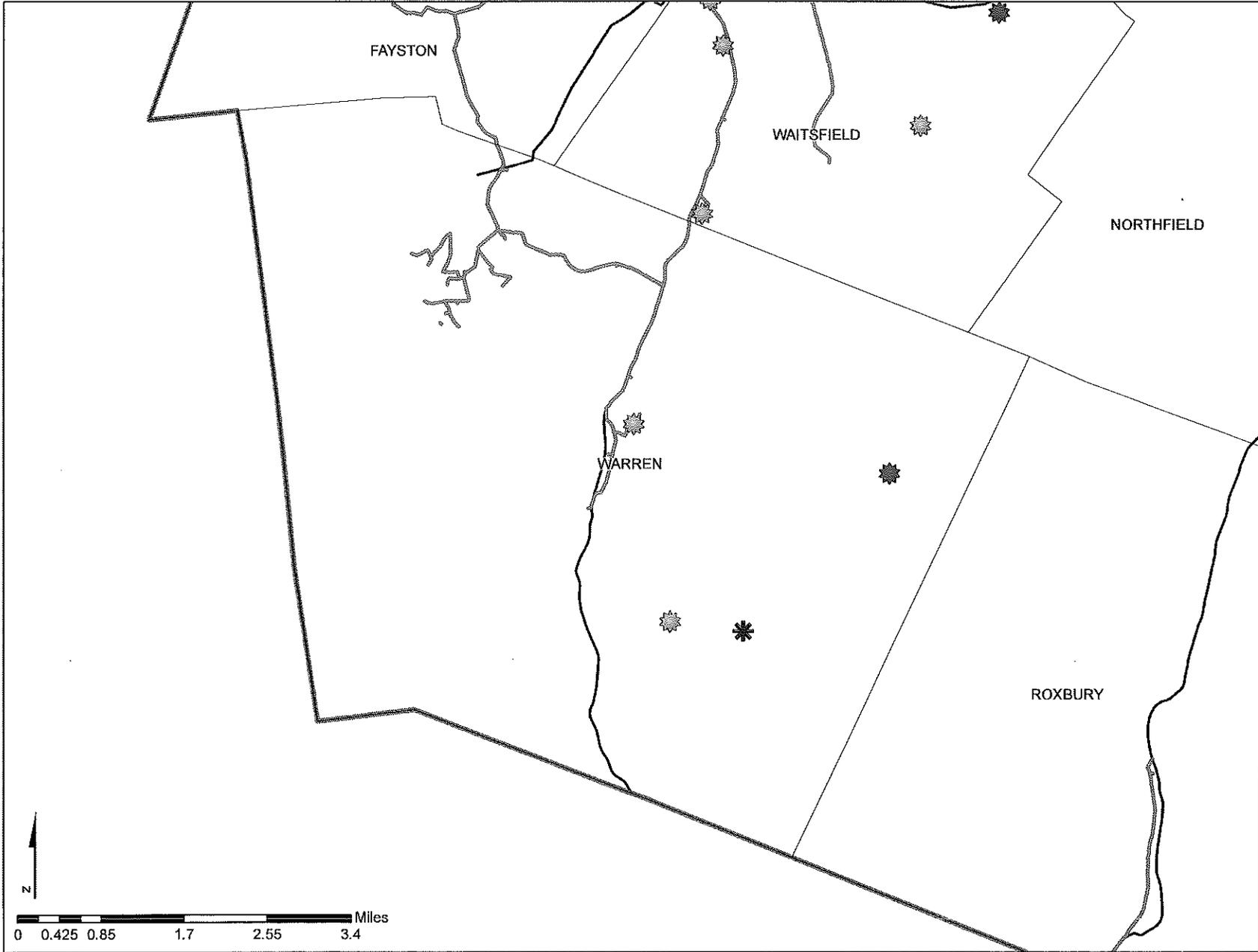
High hazard potential dams are those where failure or mis-operation will probably cause loss of human life. The other rankings were grouped together and their failure or mis-operation results in no probable loss of human life, but could cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns. These dams are often located in predominately rural or agricultural areas, but could be located in areas with population and significant infrastructure.

This map was created as part of a Regional Energy Planning Initiative being conducted by the Bennington County Regional Commission, and the Vermont Public Service Department.

Created: December 2016 by CVRPC GIS.  
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 Hydroelectric Resources 11x17.mxd



Central Vermont Regional  
 Planning Commission  
 Existing Renewable  
 Energy Generation  
 WARREN



**Key**

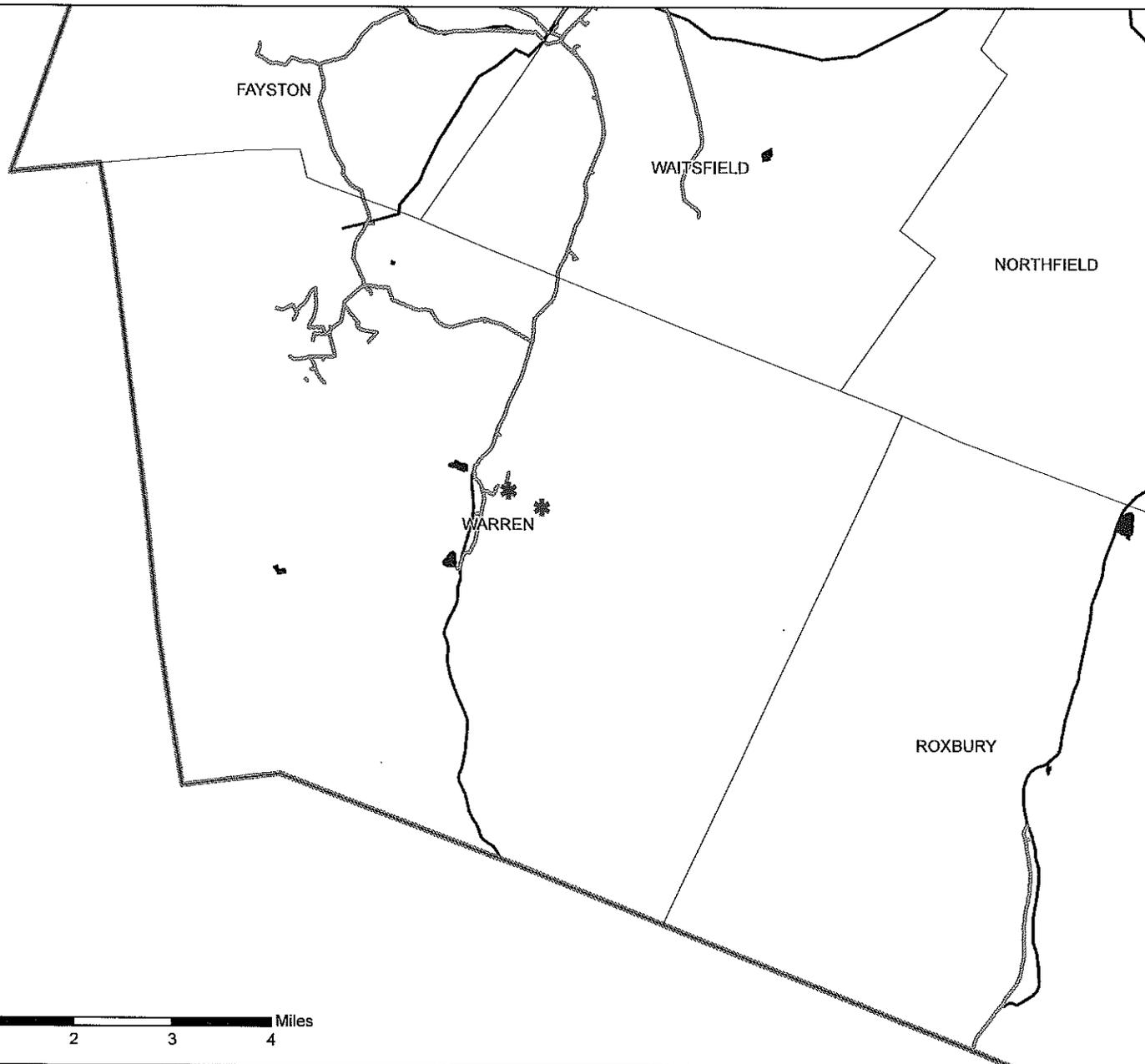
- Biomass for Heat - Current Sites
- Wind Generation - Current Sites
- Solar Sites - Current Generation > \$5KW**
- Ground-mounted PV
- Roof-mounted PV
- Substations
- 3 Phase Power Lines
- Transmission Lines
- Major Roads



Data:  
 Wind and Biomass generation:  
 VT Energy Dashboard  
 Solar Sites: VT Energy Dashboard

This map was created as part  
 of a Regional Energy Planning Initiative  
 being conducted by the Bennington  
 County Regional Commission,  
 and the Vermont Public Service Department.  
 Created: November 2017 by CVRPC GIS.

Central Vermont  
Regional Planning Commission  
Preferred Sites  
WARREN



**Key**

-  Brownfields Sites
-  Moretown Landfill
-  Sand and Gravel Pits
-  Quarries
-  Substations
-  3 Phase Power Lines
-  Transmission Lines
-  Major Roads



Data:

Brownfields: VT ANR, VCGI.  
Sand and Gravel Pits, Quarries:  
CVRPC, 2013 digitized from 1998 imagery.

This map was created as part of a Regional Energy Planning Initiative being conducted by the Bennington County Regional Commission, and the Vermont Public Service Department.

Created: November 2017 by CVRPC GIS.



# Warren Community Survey 2017

The survey was distributed online in June 2017 and advertised through multiple Front Porch Forum postings. **266 responses** to the survey were received (there are approximately 770 households and 1,700 residents in Warren).

## 1. Do you live in Warren?

	YES	NO	
#	212	54	32 respondents live in the Mad River Valley outside Warren 9 respondents live in Massachusetts 13 respondents live in elsewhere
%	80%	20%	

## 2. Are you a year-round or seasonal resident?

It is likely that the 14 respondents who replied that they did not live in Warren or elsewhere in the Mad River Valley are also seasonal residents. Given that seasonal or second homes comprise 60 to 70% of the town's housing stock, seasonal residents are significantly underrepresented in the survey.

	YEARROUND	SEASONAL	NR
#	180	30	2
%	85%	14%	1%

*Warren residents only*

## 3. Do you own or rent your home?

The 2015 American Community Survey reported that rental units comprise 20% of Warren's housing stock, suggesting that renters are somewhat underrepresented in the survey. It is common for homeowners to be more likely than renters to respond to a survey such as this.

	OWN	RENT	NR
#	188	21	3
%	89%	10%	1%

*Warren residents only*

## 4. What year were you born?

The age distribution of survey respondents was generally consistent with the age distribution of town residents as a whole as reported on the 2015 American Community Survey.

AGE	<18	18-29	30-44	45-64	65-74	75+	NR
#	1	7	30	104	37	16	17
%	0%	3%	14%	49%	18%	8%	8%

Median age of respondents was 57.

*Warren residents only*

### 5. How many years have you lived in Warren?

Long-time residents are likely over-represented in the survey based on 2015 American Community Survey data. It is typical for long-time residents to be more likely to respond to a survey such as this.

	<5	5-19	20+	NR
#	33	82	96	1
%	16%	39%	45%	0%

*Warren residents only*

### 6. How long do you think you will continue living in Warren?

Two-thirds of survey respondents indicated that they plan to continue in Warren for the foreseeable future. This suggests that they have a strong connection to and investment in Warren, and generally have positive feelings about life in Warren.

	Not Likely to Leave	Likely to Leave w/in 5 yrs	Likely to Stay 5-10 yrs	Like to Stay > 10 yrs	NR
#	76	31	35	66	4
%	36%	15%	16%	31%	2%

*Warren residents only*

### 7. How many people in each age group live in your household?

Comparing the survey results to 2015 American Community Survey suggests that those living in families with children were more likely to respond to the survey and are somewhat over-represented.

HOUSEHOLDS WITH AT LEAST 1 MEMBER AGE							
	0-4	5-17	18-24	25-44	45-64	65-74	75+
#	30	69	44	55	127	61	34
%	14%	33%	21%	26%	60%	29%	16%

12 respondents skipped this question.

*Warren residents only*

### 8. Where do the members of your household work?

As compared to Census data, survey results suggest that more Warren residents may be working in town (including those working from home).

HOUSEHOLDS WITH AT LEAST 1 MEMBER WORKING							
	NO WORKERS	FROM HOME	WARREN	ELSEWHERE MRV	MONTPELIER	BURLINGTON	OTHER
#	38	51	40	82	18	15	45
%	18%	24%	19%	39%	8%	7%	21%

2 respondents skipped this question. 13 responded Boston and 6 responded Waterbury.

*Warren residents only*

**9. What three words come to mind when you think of Warren?**

Beautiful	111	Recreation	33
Peaceful & Quiet	88	Home	26
Community	66	Small	21
Friendly & Safe	53	Arrogant	14
Quaint & Quirky	41	River	11
Rural	40	Village	8
Expensive	36	Mountains	7
Sugarbush	36	Other	52

Responses were grouped as follows:

- Beautiful (beautiful, cute, scenic, scenery, picturesque, pretty, views)
- Peaceful & Quiet (peaceful, peace, peacefulness, quiet, tranquil, low key, restful, relax, relaxed)
- Community (community, local, town, Warren Store, school, 4<sup>th</sup> of July, people, library)
- Friendly (friendly, safe, neighborly, caring, nice, personable, welcoming)
- Quaint & Quirky (quaint, quirky, historic, nostalgic, eclectic, rustic, funky, artistic)
- Rural (rural, remote, space, natural, green, clean, fresh)
- Expensive (expensive, costly, upscale, exclusive, taxes, rich, low wage)
- Sugarbush (Sugarbush, skiing, resort, tourism, tourists, condos)
- Recreation (recreation, cycling healthy, fitness, active lifestyle, outdoor activities / exercise / oriented)
- Home (home, refuge, happy place)
- Small (small, tiny)
- Arrogant (arrogant, elitist, exclusionary, pompous, hypocritical, snobbish, prejudicial, cliquy)
- River (river, water, waterfall, covered bridge, Mad River, Warren Falls)
- Mountains (mountains, hilly)

212 respondents answered this question.

**10. Describe one positive change in Warren in the past 10 years.**

Roads and bridges	34	Improved sense of community	4
Sugarbush	31	Economic development and growth	4
Paths and trails	22	Efforts to improve flood resiliency	3
East Warren Market	19	Renewable energy generation	3
Blueberry Lake	17	Municipal sewer	3
Library	17	Improvements at Warren Falls	2
Goods & services available	13	Other	10
Warren Village projects	7	No positive changes	15
Changes at the school	6		

194 respondents answered this question.

**11. Describe one negative change in Warren in the past 10 years.**

School consolidation	32	Warren Dam	5
Rising taxes & cost of living	28	Flooding	5
Businesses have closed	12	High housing costs	4
Roads and bridges	12	Development of large homes	4
Increased traffic / less quiet	11	Climate change	3
Changes to Main Street	9	Municipal building	2
Sugarbush (development, snow)	8	No negative changes	15
Warren Falls (overuse, parking)	8	Other	25
Signs	6		

180 respondents answered this question.

**12. Describe one thing about Warren that should not change.**

Warren village	25	Not overdeveloped	8
Rural character	18	Scenic character	7
Quality of life (slow pace, quiet)	16	Access to outdoor recreation	6
Being a small town	16	No traffic lights	5
July 4 celebration	15	Dirt roads	4
Town government	12	Clean environment	4
Local businesses	12	Warren school (keep elementary)	4
Sense of community	9	Warren Dam (repair)	4
Open space (undeveloped land)	8	Other	21

188 respondents answered this question.

**13. Describe one thing about Warren that should change.**

Economy (local business, tourism)	26	Warren Dam (remove)	5
Taxes and cost of living	21	Town facilities (garage, library, etc.)	5
Affordability / cost of housing	16	Consolidate schools	3
More walkable and bikable	14	More renewable energy generation	3
Roads (maintenance, paving)	14	Reduced traffic speed	3
Recreation (access, facilities)	11	No change	7
More civic engagement	10	Other	33
Town gov't (sharing, town mtg.)	9		

183 respondents answered this question.

**14. Please rate the following:**

	<b>EXCELLENT</b>	<b>GOOD</b>	<b>FAIR</b>	<b>POOR</b>	<b>UNSURE</b>	<b>NR</b>	<b>AVE</b>
Overall quality of life in Warren	102 38%	78 29%	10 4%	3 1%	4 1%	69 26%	1.55
Overall economic health of Warren	6 2%	62 23%	89 33%	25 9%	15 6%	69 26%	2.73
Overall direction Warren is taking	8 3%	101 38%	46 17%	15 6%	25 9%	71 27%	2.40

Average calculated using a scale where EXCELLENT = 1 and POOR = 4.

**15. What specific changes are needed to improve any of the above?**

Economic development	35	Town government and spending	6
Affordability and cost of living	25	More public transportation	3
Lower taxes	15	Other	44

117 respondents answered this question.

**16. Please rate the following:**

	<b>EXCELLENT</b>	<b>GOOD</b>	<b>FAIR</b>	<b>POOR</b>	<b>UNSURE</b>	<b>NR</b>	<b>AVE</b>
Condition of town roads	12	122	56	18	0	68	2.40
Winter maintenance of town roads	69	103	18	4	4	68	1.78
Safety of driving in Warren	26	125	32	11	2	70	2.14
Availability of sidewalks, paths & trails	16	75	73	25	8	69	2.57
Safety of walking in Warren	18	86	69	18	6	69	2.46
Safety of biking in Warren	12	61	76	27	21	69	2.67

Average calculated using a scale where EXCELLENT = 1 and POOR = 4.

**17. What specific changes are needed to improve any of the above?**

More walkable (sidewalks, paths)	39	Pave roads	7
More bike friendly (lanes, paths)	36	Improved road maintenance	6
Traffic calmed (lower speed)	16	Do not build sidewalks	5
Driver behavior (speed, cell use)	7	Other	26

115 respondents answered this question.

**18. Please rate the following:**

	EXCELLENT	GOOD	FAIR	POOR	UNSURE	NR	AVE
Availability of housing	3	41	62	44	42	74	2.98
Affordability of housing	0	11	64	87	30	74	3.47
Quality of housing	7	77	61	15	31	75	2.52

Average calculated using a scale where EXCELLENT = 1 and POOR = 4.

**19. What specific changes are needed to improve any of the above?**

More affordable housing	35	Cluster housing (smaller lots)	6
More rental housing	14	Higher wages	6
Lower taxes	14	Enforce codes (improve quality)	5
Rehab existing homes (efficiency)	12	More multi-family housing	5
More smaller homes	8	Less empty seasonal housing	3
More workforce housing	8	No changes	4
Easier to permit housing	7	Other	18

108 respondents answered this question.

**20. Please rate the following:**

	EXCELLENT	GOOD	FAIR	POOR	UNSURE	NR	AVE
Job opportunities in Warren	0	20	73	69	32	72	3.30
Business climate in Warren	2	39	80	34	38	73	2.94
Availability of goods and services	6	46	88	48	6	72	2.95

Average calculated using a scale where EXCELLENT = 1 and POOR = 4.

**21. What specific changes are needed to improve any of the above?**

No business growth	16	Increased tourism	4
Commercial activity in Waitsfield	10	New gas station	3
Economic development (growth)	9	Grocery store	2
Incentives (zones, incubators, etc.)	9	More businesses in village	2
Reduce taxes	6	Other	47
More restaurants	6		

104 respondents answered this question. Many of the uncategorized responses related to: thinking about economic development valley-wide, the perception that Warren is not business-friendly, and general interest in having more local businesses so it would not be necessary to drive as far for goods and services.

**22. Please rate the following:**

	<b>EXCELLENT</b>	<b>GOOD</b>	<b>FAIR</b>	<b>POOR</b>	<b>UNSURE</b>	<b>NR</b>	<b>AVE</b>
Town response to emergencies	63	73	16	1	37	76	1.71
Safety from crime in Warren	49	98	30	7	8	74	1.97
Quality of response by VT state police	11	55	35	17	73	75	2.49
Quality of response by fire department	73	50	6	4	57	76	1.56
Quality of response by ambulance	83	58	3	2	44	76	1.48

Average calculated using a scale where EXCELLENT = 1 and POOR = 4.

**23. What specific changes are needed to improve any of the above?**

More police coverage	14	Other	40
No change	6		

60 respondents answered this question. Many of the uncategorized comments related to Warren being a rural community and there not being an expectation of greater police or ambulance service.

**24. Please rate the following:**

	<b>EXCELLENT</b>	<b>GOOD</b>	<b>FAIR</b>	<b>POOR</b>	<b>UNSURE</b>	<b>NR</b>	<b>AVE</b>
Overall environmental quality	103	79	8	0	1	75	1.50
Water quality in rivers and streams	80	93	13	1	5	74	1.65
Ability to enjoy nature in Warren	141	44	5	1	2	75	1.30
Ability to enjoy quiet in Warren	129	45	13	1	2	76	1.39
Ability to enjoy scenic views in Warren	148	33	7	0	0	78	1.25
Adequacy of public recreation areas	70	92	17	6	4	77	1.78

Average calculated using a scale where EXCELLENT = 1 and POOR = 4.

**25. What specific changes are needed to improve any of the above?**

More paths and trails	14	Control invasives (knotweed)	5
Reduce use (Falls, Blueberry Lake)	10	Reduce noise (glider planes)	5
More public access	10	Dogs kept on leash in rec areas / trails	3
Mad River (water quality, access)	9	Warren Dam (repaired)	2
More recreation facilities	9	No changes	5
Improved water quality	7	Other	13

79 respondents answered this question.

**26. Please rate the following:**

	EXCELLENT	GOOD	FAIR	POOR	UNSURE	NR	AVE
Availability of activities for youth	11	65	39	14	61	76	2.43
Availabilities of activities for seniors	7	31	35	29	88	76	2.84
Availability of cultural activities in Warren	10	78	59	21	22	76	2.54
Access to childcare providers	3	18	25	19	122	79	2.92
Quality of the school in Warren	49	67	19	6	48	77	1.87
Quality of the library in Warren	73	70	12	0	34	77	1.61
Access to healthcare providers	5	33	42	68	40	78	3.17

Average calculated using a scale where EXCELLENT = 1 and POOR = 4.

**27. What specific changes are needed to improve any of the above?**

Healthcare (access, cost)	15	Childcare and youth activities	6
Seniors (activities, transportation)	9	Library	4
More arts and cultural activities	7	Public transportation	3
School (repairs, local control)	7	Other	23

64 respondents answered this question.

**28. Please rate the following:**

	<b>EXCELLENT</b>	<b>GOOD</b>	<b>FAIR</b>	<b>POOR</b>	<b>UNSURE</b>	<b>NR</b>	<b>AVE</b>
Access to high-speed internet	38	82	37	26	10	73	2.28
Access to cell phone service	12	66	70	40	3	75	2.73
Management of stormwater	10	62	46	12	62	74	2.46
Energy efficiency of town facilities	9	50	23	9	101	74	2.35
Availability of parking in Warren	21	75	58	33	5	74	2.55

Average calculated using a scale where EXCELLENT = 1 and POOR = 4.

**29. What specific changes are needed to improve any of the above?**

Better cell phone service	29	Main Street project (don't like)	9
Faster / lower cost internet service	19	Improved energy efficiency	4
More parking	19	Other	12
Better stormwater management	12		

76 respondents answered this question.

**30. Please rate the following:**

	<b>EXCELLENT</b>	<b>GOOD</b>	<b>FAIR</b>	<b>POOR</b>	<b>UNSURE</b>	<b>NR</b>	<b>AVE</b>
Overall quality of town gov't	30	96	26	8	28	78	2.08
Access to info about town issues	25	102	39	8	16	76	2.17
Opportunity to participate in community	43	98	18	10	21	76	1.97
Response of town gov't to citizens	18	73	43	10	45	77	2.31
Value of services for town taxes paid	17	55	57	40	20	77	2.71

Average calculated using a scale where EXCELLENT = 1 and POOR = 4.

**31. What specific changes are needed to improve any of the above?**

Lower taxes	25	Town government (satisfied)	5
Greater civic engagement	12	Town government (dissatisfied)	3
More municipal services	8	Other	9
Improve town website & use FPF	7		

64 respondents answered this question.

**32. Should Warren be regulating development more than, less than or the same as we do now to protect the following resources?**

	<b>MORE</b>	<b>SAME</b>	<b>LESS</b>	<b>UNSURE</b>	<b>NR</b>
Historic buildings	40	102	8	13	103
Scenic views	53	87	10	13	103
Wildlife habitat	66	75	8	15	102
Wildlife travel corridors	68	70	7	17	104
High elevation areas	59	74	11	20	102
River corridors	61	76	10	18	101
Wetlands	43	88	10	21	104
Floodplains	54	76	9	23	104
Farmland	47	86	11	19	103
Forestland	44	86	11	19	106
Ridgelines	57	73	10	20	106
Steep slopes	42	85	8	27	104

### 33. Are there specific locations or resources that should be protected?

Ridgelines	10	Farms and meadowlands	4
Water resources	9	Control invasives	4
Wildlife corridors	6	Other	31

61 respondents answered this question. Many of the uncategorized responses were general in nature and supportive of continued protection of natural resources.

### 34. What regulatory approaches should Warren take to protect important natural resources?

	SUPPORT	OPPOSE	UNSURE	NR
Require DRB approval for homes larger than 2,000 sf	44	63	50	109
Require DRB approval for homes larger than 3,000 sf	61	49	47	109
Require DRB approval for homes larger than 4,000 sf	101	28	29	108
Require clustered subdivisions or PUDs in rural parts of town	58	46	50	112
Decrease the max number of homes per acre in rural parts of town	52	48	56	110
Increase the min lot size in rural parts of town	50	50	54	112
Encourage additional multi-family development in Warren and Sugarbush villages	109	23	28	106
Increase the max number of homes per acre in Warren and Sugarbush villages	77	46	35	108
Decrease min lot size in Warren and Sugarbush villages	68	45	43	110
Restrict development in areas with important natural resources	126	11	23	106
Inventory and assess important natural resources	131	7	20	108
Use tax dollars to help fund the purchase of conservation easements	91	31	37	107

**35. Where should open space be maintained in Warren?**

	<b>SUPPORT</b>	<b>OPPOSE</b>	<b>UNSURE</b>	<b>NR</b>
Along the access road	48	54	55	109
Along Route 100	106	27	30	103
In Warren Village	69	53	37	107
In Sugarbush Village	35	74	48	109
In rural areas of town	127	13	25	101

**36. Are there specific locations that should remain open space?**

Farms and meadowlands	9	Viewsheds	3
Rivers and streams	8	Wetlands	2
East Warren	7	Wildlife corridors	2
Ridgelines	5	Other	18
Blueberry Lake	4		

46 respondents answered this question.

**37. What would be the most effective steps Warren could take to support recreation and recreation-based economic development?**

- 1 Expand and interconnect trail systems
- 2 Improve facilities for bicyclists and pedestrians
- 3 Improve public recreation areas
- 4 Improve water access
- 5 Improve maps and online information about recreation
- 6 Improve kiosks and signs providing information about recreation

*Based on 111 responses*

**38. What specific recreation projects or improvements should be undertaken?**

Trails and paths	32	Warren Falls	4
Bicycle improvements	16	Other	23

64 respondents answered this question.

**39. Should Warren encourage more renewable energy production?**

	<b>SUPPORT</b>	<b>OPPOSE</b>	<b>UNSURE</b>	<b>NR</b>
Solar collectors for personal use	150	4	7	105
Solar facilities for utility energy production	116	18	26	106
Wind turbines for personal use	85	50	26	105
Wind facilities for utility energy production	60	61	39	106
Biomass for personal use	94	13	53	106
Biomass for utility energy production	65	23	72	106
Hydro for personal use	87	30	41	108
Hydro facilities for utility energy production	70	37	52	107

**40. Are there specific locations where renewable energy projects should or should not be encouraged?**

Not on ridgelines	19	Do not support renewable anywhere	3
Not in visible locations	9	Not on farmland	3
Put solar on buildings	8	No utility-scale renewables	3
Support renewable anywhere	4	Other	18

46 respondents answered this question.

**41. What would be the most effective steps to manage future residential development?**

- 1 Allow higher-density housing in Warren and Sugarbush villages
- 2 Expand village areas to provide opportunities for more housing
- 3 Provide water and sewer infrastructure in more areas
- 4 Increase opportunities for housing in the rural areas of town

*Based on 110 responses*

**42. Should Warren encourage more residential development in the following locations?**

	<b>SUPPORT</b>	<b>OPPOSE</b>	<b>UNSURE</b>	<b>NR</b>
Within Warren Village	103	37	16	110
Within Sugarbush Village	125	17	15	109
Outside village areas	65	52	39	110

**43. What would be the most effective steps Warren could take to manage future commercial development?**

- 1 Expand village areas to provide opportunities for more businesses
- 2 Improve high-speed internet and cell phone service
- 3 Increase efforts to attract new businesses to locate in Warren
- 4 Allow expanded agricultural enterprises or on-farm businesses
- 5 Allow large home-based businesses

*Based on 116 responses*

**44. Should Warren encourage more commercial development in the following locations?**

	<b>SUPPORT</b>	<b>OPPOSE</b>	<b>UNSURE</b>	<b>NR</b>
In Warren Village	118	31	9	108
In Sugarbush Village	141	11	6	108
On the access road	111	24	20	111
Along Route 100	84	49	23	110
In rural areas of town	31	91	30	114

**45. How should Warren allocate funds among the following?**

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\$22	Roads and bridges
\$10	Affordable and special needs housing
\$10	Public safety
\$9	Economic development
\$9	Energy conservation, efficiency or alternatives
\$9	Sidewalks, paths, trails
\$9	Land conservation and historic preservation
\$8	Public parks and recreation
\$7	Emergency preparedness, disaster mitigation, resiliency
\$5	Public transit
\$1	Other

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*Based on 118 responses*

