

# CASTLETON, VERMONT 2018 TOWN PLAN



2017 NEW TOWN ADMINISTRATION BUILDING

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## **INTRODUCTION AND OVERVIEW**

### **VISION FOR THE FUTURE OF OUR COMMUNITY**

The Castleton Town Plan is a framework and guide for reaching community goals. The policies and programs stated within this comprehensive plan were developed to preserve and protect the town's assets while providing a future vision for town officials, businesses, and citizens of Castleton.

The Plan should be a basis for community programs and decision-making. For example, it should influence the town's budget and capital expenditures, community development efforts, and natural resource protection initiatives. As required by law, it should also serve as a foundation for local land use controls such as zoning, subdivision, and health regulations. In terms of its significance in relation to State land use controls and growth policy, the Plan plays a key role. Vermont's Act 250 includes a provision for a review procedure through which all applications for a subdivision and development must pass. Furthermore, the Plan should be given full effect in all appropriate regulatory proceedings, such as Act 250, and Title 30, Section 248.

#### **Statutory Authority and Requirements**

The Castleton Town Plan is an integral part of the regional and statewide planning process. In adopting the Town Plan, citizens of Castleton may anticipate the future with the knowledge that a significant step has been taken in the development and preservation of their community.

Town Plan preparation is guided by the Vermont Municipal and Regional Planning and Development Act, "The Act". The Castleton Town Plan was prepared in conformance with all of the requirements in the Vermont Statutes.

#### **Public Participation and Preparation of the Castleton Town Plan**

Planning for the future is a continuing activity and should reflect new data, laws, technologies, planning concepts, and the changing needs and desires of the community. The Castleton Planning Commission has the responsibility for the preparation of the Town Plan. The Plan must be updated and readopted on an eight-year basis according to Vermont State Statutes.

Work began on the current update in 2016. In the course of developing the Plan, the Castleton Planning Commission and Town contracted for technical assistance with the Rutland Regional Planning Commission. The Planning Commission held public forums in order to obtain input from the public.

#### **Regional Coordination**

This plan recognizes that Castleton does not exist in isolation from the region and will be affected by what happens in the surrounding municipalities. The relationship between this plan and the development trends and plans for the surrounding area and the *Rutland Regional Plan* has been considered. For purposes of this Plan, the surrounding area includes the Towns of Fair Haven, Benson, Hubbardton, West Rutland, Ira, Poultney and Pittsford.

Review of the land use plans of surrounding communities suggests that the future land use pattern promoted by this Plan is generally compatible. Surrounding communities promote low-density land development and continuation of resource-based uses (such as agriculture) in outlying areas and higher density and commercial uses in existing built-up areas. Sensitive areas (such as flood plains) are also identified and targeted for conservation, as they are in Castleton.

## HISTORY OF CASTLETON

Castleton shares a birth time and circumstance with a number of other towns and it shares the impacts of trends and developments important to Vermont and the United States. Castleton's people dote on its history as they deal with its future. Its history is a case study of change, why it has occurred and what it has meant.

From the First Census of 1791, until the one in 1870, each decade witnessed population growth in agriculture, business and industry. Probably because of the post-Civil War economic decline and the severe depression that began in 1873, the town went into a gradual period of decline in population and economic activity. This continued until the town began to mirror the new prosperity of the post-World War II Era in 1950. Growth and development have continued to the present.

Evidence of another kind of change, land use, can easily be found in the town's land owning and tax records. Abundant archeological remains can be found in almost every corner of the town. The second-growth forests are full of cellar holes, stone walls, old fashioned apple trees, antique rose bushes, lilacs as well as family and farm debris. The growth and development of farms, as well as their struggle, decline and converted to industrial, recreational and residential uses are another example of change.

Fire caused major changes in the business parts of Castleton Village, Castleton Corners and Hydeville. Demolition, recycling, remodeling, and moving buildings have also promoted visible changes. Cookville has vanished. Two of the hotels on the lake burned and the last three were demolished in the early 1970s. Two of the public beaches are gone and Crystal Beach has been drastically changed.

Castleton's hills roll back, both north and south, from their westerly flowing Castleton River and east and west from the shores of Lake Bomoseen. In some cases there is very little level or easy rolling land before the hills become quite steep. Regardless of the steepness, those hills were more often than not cleared. The timber provided lumber for building, the most level land was used for cropland, and the hills provided pasturage. The Castleton River and such tributaries as North Brenton Brook, Sucker or Pencil Mill Brook, and the outlets of Lake Bomoseen and Glen Lake provided water power sites, which began to be developed early in the town's history. Sawmills, marble mills, slate mills and other kinds of uses became common.

Lake Bomoseen has been put to many uses over the years. There was some commercial fishing, in addition to sporting and subsistence fishing year-round. As the timber was cut from its hilly shores, logs were rolled onto the ice in winter and floated to the mills in Hydeville after the lake thawed. Every dairy farmer, local stores, hotels and other businesses all had ice houses, which had to be filled each winter. Ice was cut, transported and stored by farmers as a way of supplementing their winter incomes. The lake was also used to transport slate by barge from West Castleton to the Hydeville Mills and to a rail spur, which ran east of the Channel.

The most dramatic change on Lake Bomoseen came shortly after the Civil War, when it began to be developed as a summer recreation and vacation site. Guests, who arrived by train in either Castleton Village or Hydeville, were frequently transported up the lake to their hotels by steamboat. At one time six hotels were built on the shores of the lake. These were supplemented by expanding farmhouses and picnic houses, which took guests. Early in the Twentieth Century the Rutland Street Railway, Light and Power Company built its trolley park, which made the lake Rutland's playground. The coming of the automobile brought a major resort and three public beaches, which were crowded on summer Sundays. An increasing number of summer cottages, cottage communities and year round homes have been built since the end of the nineteenth century.



## Community Centers of Life

People settled in Castleton where they found land that was suitable to their purposes and where other conditions suited their needs. They tended to group in villages along the Castleton River, from Castleton Village in the east, west through Castleton Corners to Hydeville. The road, railroad and trolley followed the valley west. As the valley land was settled people moved out into the rolling hills. Those in the outlying areas were grouped according to school districts. There were twelve of these at first. Each district had to support its own school until the state mandated town districts.

Each of the villages was a recognizable community, although none in the Town of Castleton was ever incorporated into a separate government unit. Each of the villages had a store and school, which tended to be the focus of community life. Castleton Village had four churches and Hydeville had two. Blacksmiths and other craftsmen worked and served the larger villages. Each, too, had a variety of commercial activities. Sometimes, as in Castleton Village, there were specialty stores such as drugs and meats. Each community had a post office. The three larger villages along the River had one or more hotels or inns. At first these were to accommodate travelers, but more and more they were operated in greater number to serve vacationers. Professional services tended to be grouped in the largest of the villages, Castleton. Here one could find lawyers, doctors and, for a time, a newspaper and the bank.

The three River Valley villages experienced significant change as the result of transportation developments. Castleton Corners was where two stage lines intersected, presently Routes 4A and 30. The railroad had stations in Castleton and Hydeville. In Hydeville, the station was closer to the center of the village and it certainly stimulated businesses and the slate mills in the area. Passenger service was important. It made it possible for people to go to either Fair Haven or Rutland. High school students who went to Fair Haven, West Rutland or Mount St. Joseph traveled by train, trolley and later by bus.

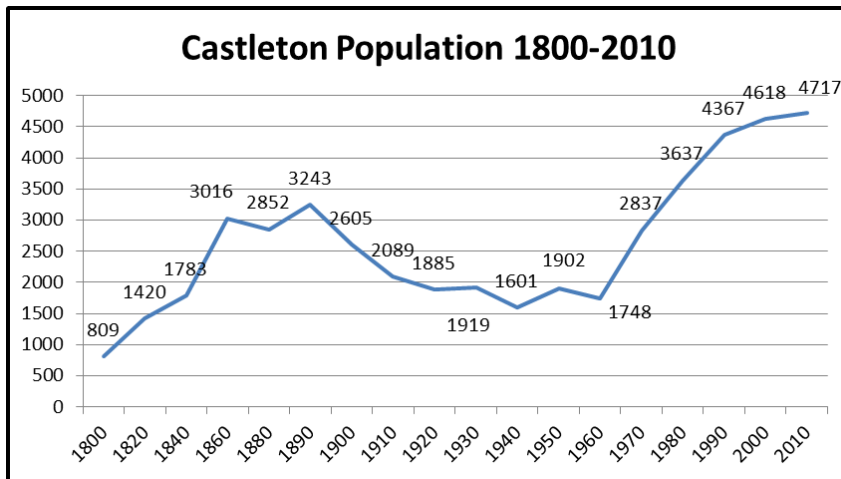
The villages in the slate belt, Blissville, Cookville and West Castleton were temporary. Their fate was tied to the slate industry, which seemed to peak in the late 1800's and then decline. The West Castleton operation ended with the beginning of the Great Depression. Some of the other quarries and mills, smaller operations, lasted into the 1950's. A resurgence in this industry occurred over the last twenty-five years.

Education was important to all parts of the town. The Village of Castleton had the good fortune of being the site of several non-town, educational developments. They helped to publicize the village and brought money and investment in it. The first of these was the Rutland County Grammar School, a private secondary school in the County. The State of Vermont granted it land in Rutland County towns chartered after Vermont had achieved Statehood. The second important educational development came with the founding and opening of the Castleton Medical College in 1818. It had made its mark on the medical profession by the time it closed in 1862. The main part of the building was given to and moved to the Castleton Normal School. The Seminary, then Normal School and Castleton State Teachers College, now Castleton University, has grown considerably since the early 1960's. Today, it is the largest employer in town.



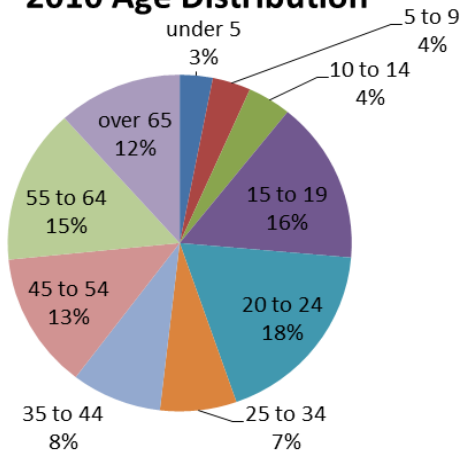
## COMMUNITY PROFILE

The Town of Castleton is the second largest community in Rutland County. The estimated population of 4,717, in 2010, ranked it behind only Rutland City and marked a new population peak for Castleton. Castleton has a land area of 39 square miles and is located in the western part of the county. The town is situated on the western slopes of the Taconic Mountain Range at an approximate elevation of 450 feet.



After 30 years of sharp growth from 1960 to 1990, during which time the Town's population more than doubled, Castleton's population growth has leveled off. After successive decades of 50, 28, and 17 percent growth, the Town's population grew by only eight percent between 1990 and 2008.

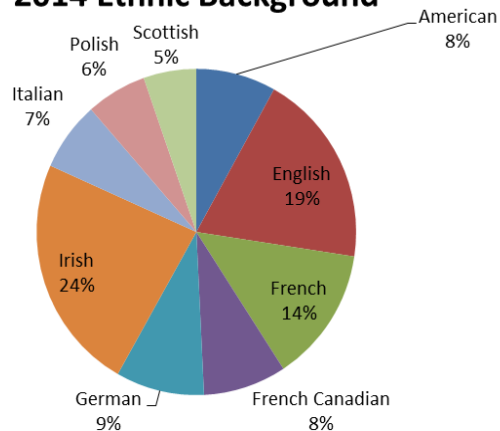
### 2010 Age Distribution



### Race and Ancestry

As was the case throughout most of Rutland County and Vermont, the overwhelming proportion of Castleton residents listed themselves as white in the 2000 Census. Of the 4,717 residents in the Town, 97.3 percent were white. Hispanic and Latino residents made up the next largest group with 1.1 percent of the population.

### 2014 Ethnic Background



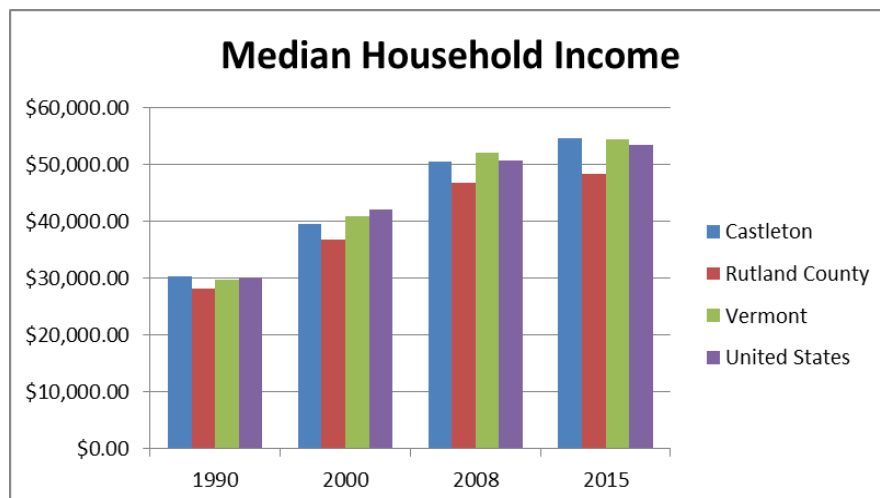
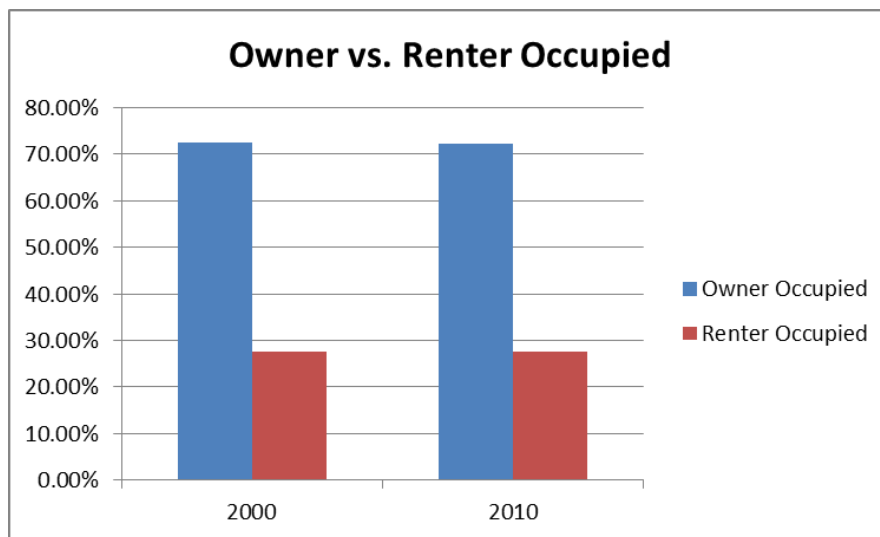
The most prominent ancestries include: Irish (14.9%), English (11.5%), French (11.3%), Italian (6.8%), German (6.3%) and American (4.6%).

Source:  
2014 ACS

## Households and Income

The average number of residents per household in Castleton has shifted unusually in the past twenty years. Whereas there has been a national trend towards fewer persons per household, in Castleton, those figures are inconsistent. Among owner-occupied units, the average number of persons per unit increased in the 1980s, but then decreased to below the state and national averages in the 1990s.

The Median Household Income (MHI) in 2016 for the Town of Castleton was \$55,452; higher than the Rutland County level of \$46,858, but slightly below the State of Vermont level of \$55,677. In 2000, the Town of Castleton MHI was \$39,615; and in 1990 the MHI was \$30,255. In eighteen years the MHI has increased 60%.

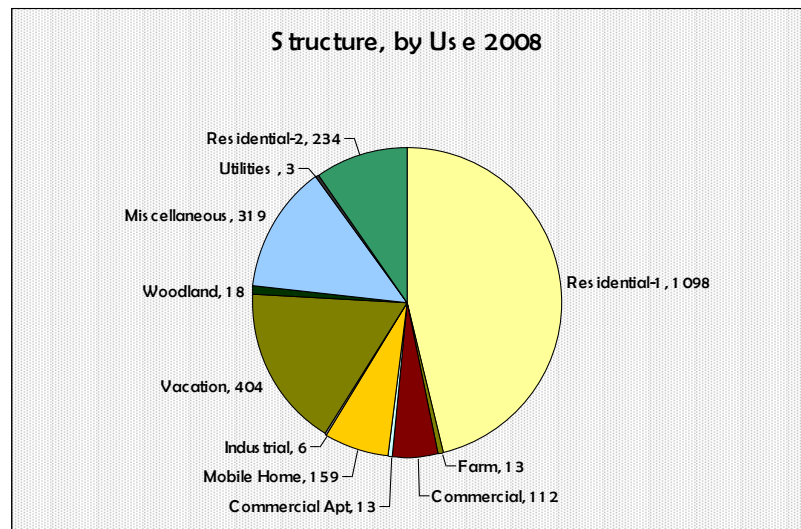


## LAND USE AND GROWTH

As new development opportunities present themselves, the Town of Castleton must balance preservation of its community and character with support of opportunities for economic growth in order to sustain the town's citizens and services. The Future Land Use Map, designating the boundaries of each district, is located at the end of this section.

### Land Use Districts

The Land Use Districts, defined in the following paragraphs, are a guide for the growth and development of the Town of Castleton. The nine land use districts in Castleton are: Residential 20,000 sq. ft., Residential 40,000 sq. ft., Rural Residential 2 acre, Rural Residential 5 acre, Village Commercial, recreation/Commercial, Industrial, Water Source Protection and Flood Hazard. These land use areas provide for a variety of residential, commercial, and recreational opportunities for the future while considering local environmental constraints as well as existing land use patterns. Castleton encourages planned growth and concentrated development in those areas of the town which provide for higher density and which can provide the necessary infrastructure to more readily support development than more rural sections of town.



Source: 2000 US Census; VT Dept. of Taxes

### Residential 20,000 Sq. Ft.

The Residential 20,000 sq. ft. district in Castleton is essentially the Castleton Village area described above. This area is built-out and contains the vast majority of Castleton's historic structures, municipal service buildings, and cultural amenities. Should additional land become available for development in the future through the acquisition of privately held parcels, changes in state land use regulations, or through other means, the residential 20,000 sq. ft. district's compact development pattern and municipal infrastructure make it among the most suitable areas for future development.

### Residential 40,000 Sq. Ft.

The residential 40,000 sq. ft. district includes nearly the entire shoreline of Lake Bomoseen as well as a contiguous tract of land south of Hydeville and Castleton Corners and a smaller area east of Route 30 south of the Corners. While doubling the minimum lot size of the Castleton Village area, the 40,000 sq. ft. district does promote development of moderate density suitable to these areas close proximity to commercial enterprises and transportation corridors of moderate to heavy traffic.

**Rural Residential 2 Acre**

The rural residential 2 acre district includes the vast majority of land in Castleton. This area is appropriate for residences.

**Rural Residential 5 Acre**

The rural residential 5 acre district, located in Castleton's north-east border region, is intended to provide land area for low-density residential development, farming, forestry, recreation and other rural land uses. Growth should be managed and consistent with the rural character of the area and site conditions. Despite the limitations on clustered development, conservation of open space and natural resources should be a high priority to maintain Castleton's rural atmosphere.

**Village / Commercial District**

The purpose of the Village Commercial District is to allow commercial enterprises of a scale that will blend well with existing residences and complement the "village" atmosphere preferred by Castleton's residents. All commercial uses in this district are to have adequate parking, suitable landscaping, screening, lighting, and signage and be designed to minimize traffic impacts in order to protect the character of the neighborhood.

**Recreation/Commercial District**

The recreation / commercial district is intended to promote a mixture of entertainment related commercial enterprises located in popular public recreation areas along the lakeshore. The primary recreation / commercial district is located on the lake's eastern shore adjacent to the popular Crystal Beach area with a smaller parcel designated at the extreme southwest shore. These areas are heavily trafficked during the peak summer months and are intended to be appealing areas for seasonal visitors and year round residents alike.

**Industrial District**

Castleton has designated industrial districts in the north-east quadrant of interchange 5 off of U.S. Route 4, south of Castleton University, just south of Route 4A between Castleton Corners and Hydeville, and along the eastern side of Route 30 south of the Corners area. There are several industrial enterprises that have operated in Castleton for quite some time.

**University Campus**

The largest employer in town and situated within walking distance to the village area, the University has 22 buildings on 165 acres of land and provides housing for approximately 1,000 students. In 2009, the University completed a new sports stadium and upgraded its student center. Other construction activities have included additional student housing and expansion of the existing athletic complex. The town and the University have continually worked together to address the issues that exist whenever expansion is contemplated.

## **LAND USE AND GROWTH GOALS, POLICIES AND PROGRAMS**

**Goal**

Provide for the development that fits the character of existing development, functions in an efficient and coordinated fashion and supports the vitality of the community.

Proposed land use patterns are intended to accommodate future growth in harmony with the natural capabilities of the land and the ability of the town to adequately provide municipal services. Castleton's scenic and natural resources are among the town's primary assets. The unspoiled mountain peaks and ridgelines are a community

asset of inestimable value: dollars and cents value to the town's economic enterprise, and emotional value to each Castleton citizen's sense of place, our home.

### **Policy 1**

Maintain a sound land use policy to regulate, preserve and encourage further growth and development.

#### **Programs**

- ❖ Restrict development in areas of severe limitations for septic systems unless they can be overcome through proper engineering and design.
- ❖ Adopt regulations for ridgeline development, shoreland, groundwater recharge areas and other identified natural areas to carefully regulate development in these areas.
- ❖ Generally restrict development on slopes in excess of 25% in grade.

### **Policy 2**

Encourage orderly and attractive development of commercial uses.

#### **Programs**

- ❖ Discourage strip development.
- ❖ Re-apply for Village Center Designation in the Four Corners, Village of Hydville and Castleton Historic Main Street areas.
- ❖ Create additional industrial zones.
- ❖ Encourage Bed and Breakfast establishments around the college, on Main Street and around Lake Bomoseen where there is an existing sewer line.

### **Policy 3**

Maintain and protect the quality and character of historic settlement patterns.

#### **Programs**

- ❖ Study the feasibility of establishing design control districts to protect historic structures, particularly in the village area.
- ❖ Encourage future residential development to be concentrated where community facilities and services are currently provided.
- ❖ Establish a Zoning Ordinance section to regulate outdoor advertising through uniform sign codes.
- ❖ Channel non-residential growth into existing growth areas and areas serviced by sewer and/or water.
- ❖ Continue to require site plan review of all commercial development proposals to encourage the sound design, orderly maintenance and establishment of infrastructure responsibility.
- ❖ Encourage the preservation and renovation of existing housing stock.

### **Policy 4**

Preserve agriculture, scenic resources and open space.

#### **Programs**

- ❖ Inventory significant scenic resources and open space.
- ❖ Contact area land trusts for assistance in inventorying landowners' interest in preserving scenic resources and open spaces.
- ❖ Provide economic incentives for those property owners keeping land in agricultural uses or maintaining open space uses.
- ❖ Ensure future development provides for adequate streets, utilities and open space and the preservation

- of the character of surrounding properties.
- ❖ Support use-value taxation, cluster subdivision techniques and other methods of conserving agricultural land and open space.
- ❖ Encourage the inclusion of greenbelts and common land areas in subdivision design.

## **COMMUNITY FACILITIES AND SERVICES**

Community facilities and services are provided by the municipality for the health, benefit, safety, and enjoyment of the general public. High quality services and facilities such as schools, highway maintenance, police and fire protection, solid waste disposal, and town government administration have a significant effect on the local quality of life as well as the community's ability to accommodate development and grow in an orderly and appropriate manner. Careful planning is essential for community facilities and services in order to meet local health, safety, and welfare needs and community goals for future growth. If the facilities are at capacity, further development may strain them, causing financial burdens and environmental problems. The Castleton Town Plan shall promote and encourage the development of an integrated and efficient utilities infrastructure system to provide the services required by both commercial users and residents.

### **Castleton Free Library**

The Castleton Free Library, a two story building located on Main Street, was established in 1897 by a group of interested citizens; it was incorporated in 1916. The Castleton Free Library currently has a five-member board of trustees, a Library Director (also serving as the children's librarian), a librarian in charge of the adult collection, and about 10 dedicated volunteers without whom the library would be unable to provide the high quality service that it does. The Castleton University Library is also available to Castleton residents.

### **Post Offices**

There are three post offices within town boundaries serving Castleton residents: The Castleton Post Office, Bomoseen Post Office and Hydeville Post Office.

#### **Castleton Post Office**

The Castleton Post Office is located at 576 Main Street. As of this writing the office had no plans for expansion or relocation.

#### **Bomoseen Post Office**

The Bomoseen Post Office is located at 63 Route 4A West in the Castleton Four Corners area. The office has no plans for expansion or relocation in the foreseeable future.

#### **Hydeville Post Office**

The Hydeville Post Office is located at 912 Route 4A West. The office building was renovated in 1998/99 and there are currently no plans for expansion or relocation of the facility.

### **Castleton Community Seniors**

Castleton Community Seniors Inc. (CCS) is a very active group that organizes a wide variety of activities and events year-round for people of all ages. Formed in 1998, one of the group's primary activities has been the development of a community center at the Historic Old Homestead building. A gift from the Alma Gibbs Donchian Foundation, the Castleton Community Center is located on Route 4A between Castleton Village and the Castleton Four Corners area.

CCS currently provides programs and services that include an Elderly and Disabled transportation program providing over 3,000 rides a year, a senior meal program serving over 3,200 meals annually and a wide variety of health related programs for seniors, including; osteoporosis prevention, tai chi and yoga, chronic disease self-management and falls prevention. The fall of 2005 saw the completion of a walking trail offering area residents of all ages a 1/3 mile packed surface, suitable for wheelchairs, and providing an outdoor exercise option for those with limited physical mobility.

## **Child Care**

The availability of child care for our residents is a big factor related to the affordability of living in Castleton. Approximately 9% of the female headed households with children under fifteen years of age comprised approximately 16% of the population, according to the 2000 Census figures. Of those under fifteen, 10% were under the age of ten and 5% were under the age of five.

With the growing need for more than one income per family, parents of young children need to have safe, accessible, and affordable child care options; otherwise, choices have to be made between earning a living or raising a family. There are currently 10 registered and two licensed day cares on record for the town of Castleton. Childcare information for Castleton is available on-line from the Vermont Department of Children and Families.

While the benefit of affordable child care is widely acknowledged as a boost for the economy and workforce, it is especially important to the survival of families already struggling to make ends meet. It is difficult to assess the need for child care facilities in Castleton because of the high proportion of adults who commute to other communities to work. It is expected that many parents choose to have their children near to their places of work, thus potentially reducing the need for facilities in Castleton. Even so, it is reasonable to assume that child care is potentially an important issue to Castleton residents, given the high percentage of families living in Castleton who have young children. Parents and/or child care providers in Castleton should be asked to provide input on the need for additional child care facilities.

## **Health Services**

Several health organizations and services are available to Castleton residents:

- ❖ Castleton Community Health Center
- ❖ Castleton First Response
- ❖ Rutland Regional Ambulance Service
- ❖ The Rutland Area Mental Health Association
- ❖ Rutland Area Visiting Nurse Association, Inc.
- ❖ Rutland County Women's Network and Shelter
- ❖ Rutland Area Hospice, Inc.
- ❖ Southwestern Vermont Area Agency on Aging, Inc.

## **Rescue**

Castleton First Responders (CFR) in conjunction with Regional Ambulance Service, Inc. of Rutland provide emergency response services in Castleton. Castleton First Responders are a volunteer organization made up of Castleton residents and Castleton University students. The organization's purpose is to provide medical assistance, stabilization, and readying patients for transport to the hospital by Regional Ambulance Service Inc. Regional Ambulance Service Inc. serves 12 communities in the region and responded to 5,664 ambulance calls and 1,295 paramedic intercept calls in fiscal year 2000. In 2017, there were 618 emergency calls to Castleton.



## **Emergency Management**

The Emergency Management Department for the town of Castleton is responsible for maintaining emergency plans and the coordination of town departments and functions in the event of an emergency. Castleton's Local Emergency Operations Management Plan (LEOP) is annually updated. The LEOP is a condensed plan that documents the steps needed to be taken in the event of an emergency. It includes a complete listing of contacts, selected methods for alerting the public, locations to be used as shelters, emergency operations centers, equipment available, a map of relevant locations sited within the plan, and evacuation routes.

The towns Hazard Mitigation plan is near completion. This plan identifies types of hazards, emergency incidents, and locations where these incidents are likely to take place. The plan also sets forth a strategy, goals and list of tasks to reduce damage from future emergencies. This plan also discusses incentives to the town, such as the Vermont's Emergency Relief Assistance Funding (ERAF), which provides state funding to match federal public assistance after federally-declared disasters.

Two emergency shelters have been designated in Castleton. They are the American Legion Post 50 and Castleton University. VT-Alert is a new all-hazards emergency notification system, provided to all citizens by the Vermont Division of Emergency Management and Homeland Security. The web-based program allows for citizens to receive real-time emergency messages and instructions from local and state officials by text message, e-mail, land-line telephone and cellular phone. Recently, the Town of Castleton adopted VT-Alert to provide mass notification and instruction to those who register for the service. The Town of Castleton will relay information regarding road closures, severe weather warnings, hazardous conditions and other emergency circumstances.

For this service to have the best possible impact, the Town of Castleton and the Emergency Services Departments' strongly urge everyone to register for this important service. To register, visit [www.vtalert.gov](http://www.vtalert.gov), and enter the "Sign up for VT Alerts" tab.

## **Public Safety/Police**

The Castleton Police Department operates seven days per week providing 20 hours of daily patrol coverage including weekends and holidays. Department personnel include a Chief of Police, three full-time patrol officers, one detective, and one administrator to the Chief of Police and several part time patrol officers. The town owns four patrol cruisers, which are fully equipped with UHF/VHF radios as well as mobile data terminals. All patrol vehicles are also equipped with medical equipment to provide treatment to Castleton residents and are equipped to the EMT/Paramedic level of service. The new Castleton Police station located at 273 Vermont Route 30 North is a fully functional station equipped with a holding cell, proper evidence storage, interview room and breathalyzer/fingerprinting equipment. This new station allows for Officer's to have ample space to conduct business and also allows Officer's to remain in town throughout the arrest process.

## **Fire Protection**

The town Fire Department is located on VT Route 30. Future needs have been anticipated and a capital budget plan exists with reserve accounts dedicated to replacement of needed items. The membership of approximately 20 is voluntary. Training and fire prevention awareness have been top priorities of the department.

## **Fire Rating**

Castleton enjoys a good fire rating. Insurance Service Organization is the ratings authority that evaluates fire departments. They consider factors such as distance from the fire station, distance from a hydrant, volunteer members or paid, and the department's capacity and size. The ISO rating directly affects all property insurance premiums.

Where municipal water is available, the rating is 7; areas outside of hydrant protection are rated at 9. Isolated areas are rated as unprotected.

### **Mutual Aid**

The Castleton Volunteer Fire Department is a member of the Rutland County Mutual Aid Association. Membership enables the Castleton FD to call for members and equipment from towns in Rutland County should the need arise. Castleton's fire chief considers mutual aid agreements as a significant resource and is comfortable with the department's ability to meet present and future residential needs largely because of the existence of mutual aid agreements.

### **Castleton Highway Department**

The Castleton Highway Department is located at 273 Staso Road and is staffed with four (4) full time employees and one (1) vehicle mechanic. The Department is responsible for the maintenance and improvements to approximately 72 miles of town roads, which include paving, guardrail installation, bridge repairs, signage, plowing, sanding & salting, tree & brush removal from the right of way, dust control and assist other town departments. The Department has an approved budget of \$1.1 million for fiscal year 2016-17.

### **Wireless Telecommunications Facilities and Services**

Vermont towns and cities may regulate wireless telecommunications facilities for aesthetic and environmental reasons, but may not regulate their siting, construction and modification on the basis of potential radiation effects relating to health and interference. Traditional tools: planning, adopting reasonable bylaws, and relying on aesthetics, safety concerns (other than radiation) and character of the neighborhood provide communities with the best tools to regulate the location of wireless telecommunications facilities.

The Town of Castleton is committed to the protection of the quality of its aesthetic, natural, historic, and cultural resources as well as, above all else, the health, safety and welfare of Castleton residents. Given this paramount commitment, the Castleton Development Review Board will closely scrutinize all telecommunication tower and facility applications. The DRB will utilize all means at its disposal to ensure that the applicant is in compliance with all applicable federal, state and local requirements and can adequately demonstrate the necessity for siting of the telecommunications facility in the Town of Castleton.

### **Wastewater**

#### **Existing system**

Town sewer is available to approximately 714 parcels or 1,100 users. The sewer service extends throughout the Main Street village center; along most of Route 4A and Route 30 north of the Four Corners including the senior housing project and part of the east shore of Lake Bomoseen; and, to much of Sand Hill Road. Some areas of the town are serviced by privately owned sewer lines.

Castleton's Waste Water Treatment Facility underwent a significant capacity upgrade in 1999. The system has a designed capacity of 540,000 gallons per day and utilizes state-of-the-art technology to process and disinfect the daily flow of effluent. The treatment plant operates as an Enterprise Fund in that it is funded and supported by users.

The collection of waste is handled by a main pumping station located on Main Street. Smaller stations are located in Hydeville, on Prospect Point Road, on Route 4A near the Iron Lantern Restaurant, at Sucker Brook, on South Street and at the Elementary School. The Town owns and maintains 62 grinder pumps on Route 30 north of the Four Corners.

### **Future Needs**

The existing plant has a permitted flow limit of 480,000 gallons per day and on an average day processes 300,000 gallons. However, there are peak days when the flow levels do exceed the permitted limit. Normally occurring after heavy rains or quick snow melts, this excess flow can still be handled by the current plant. However, any significant expansion of sewer service within the town or substantial development within areas already served will require that either the existing treatment facility be expanded or that another treatment facility be built to handle the anticipated increase in volume. This plan recommends that the Castleton Select Board establish a committee to identify future sewage treatment needs and means by which those needs can best be met.

### **Water Supply**

#### **Existing facilities**

The municipal reservoir is owned by Fire District #1, and is located in the Ellis Orchard. The reservoir consists of two 112,500-gallon concrete water tanks. The reservoir is supplied by two wells: one is located at North Road and one is located across the river on Mill Street, this also serves the Castleton University Campus.

Approximately 304 units are serviced with municipal water. The service area is in the village center and along Route 4A from Ellis Orchard to the Castleton River, on South Street to Meadow Lane and along Staso Road to the Town Garage. Fire District #2 supports the lights for the village of Hydeville.

#### **Castleton Fire District #3 / Municipal Water Service Expansion**

Castleton Fire District #3 was formed on November 1, 1999 with the goal of establishing a community water system in the Four Corners/Hydeville area. The District encompasses existing commercial, industrial and residential development along Route 4A to Hydeville and from Castleton Four Corners to Route 4.

#### **Solid Waste Disposal**

Solid Waste in Castleton is managed in cooperation with the Rutland County Solid Waste District (RCSWD), a special purpose municipality overseen by a board of directors representing its member towns. Membership in the District establishes a guaranteed waste disposal option for the town. The District also provides unregulated hazardous waste collection services to both households and businesses.

The Castleton Transfer Station is located at 393 Staso Road and services the Towns of Castleton & Hubbardton with 2 full time employees. The Transfer Station is responsible for maintaining proper disposal of trash, recycling, construction/demolition materials and must comply with the Vermont Universal Recycling Law (Act 148) enacted in 2015.

## **COMMUNITY FACILITIES AND SERVICES GOALS, POLICIES AND PROGRAMS**

### **Goal 1**

To provide the highest quality community facilities and services to meet anticipated growth and protect the health, safety and welfare of town residents within the context of fiscal capabilities and land use planning objectives.

### **Policy 1**

Improve the capacity of the Castleton Town Government to perform effectively.

## **Programs**

- ❖ Improve the quality of intergovernmental communication by conducting bi-annual or annual meetings inviting all members of each of the municipal boards and town government employees to openly discuss issues concerning the efficient function of municipal business.
- ❖ Increase community participation in local government and in community events.

## **Policy 2**

Ensure that the location and capacity of infrastructure is consistent with other planning goals, such as protection of natural resources, the provision of quality housing for all residents, and the recruitment of appropriate businesses to Castleton.

## **Programs**

- ❖ Review Castleton's zoning and subdivision regulations to ensure that they are consistent with the Goals, Policies and Programs of the Castleton Town Plan and update as needed.
- ❖ Stay abreast of innovations and emerging technologies in order to keep town policies and regulations concerning siting of necessary infrastructure up to date.
- ❖ Continue the consolidated permit process whereby sewer and water concerns are addressed in all development projects.
- ❖ Continue to protect groundwater and surface water supplies with an effective and efficient sewage treatment facility.
- ❖ Encourage industrial growth in areas served by the municipal water and sewer system.
- ❖ Develop a comprehensive plan that addresses the future needs of wastewater treatment requirements with the town.

## **Policy 3**

Protect the health, safety and welfare of Castleton residents through the provision of high quality municipal services.

## **Programs**

- ❖ Maintain a current and effective rapid response plan and continue to engage in more comprehensive emergency management planning as resources become available.
- ❖ Maintain a superior volunteer fire department through an awareness campaign to solicit volunteer members and a comprehensive plan for facilities upgrade.
- ❖ Utilize the State Police facilities as much as possible, but be prepared to increase the size of the police force to correspond to future needs.
- ❖ Continue capital budgeting for equipment needs.
- ❖ Solicit the help of the business community in inventorying hazardous materials contained within town borders.
- ❖ Encourage cooperation between the town and the college chemical safety officer.

## **Policy 4**

Provide the town with adequate waste disposal facilities and manage costs effectively.

## **Programs**

- ❖ Continue to monitor all possible alternatives for waste disposal.
- ❖ Strictly control access to residents of Castleton and Hubbardton.
- ❖ Identify a long-term solution to rising solid waste disposal costs.
- ❖ Investigate revenue generation potential.

- ❖ Develop a plan to increase recycling where economically justified.

## Policy 5

Encourage maximum flexibility for parents to have access to quality child care providers.

## Programs

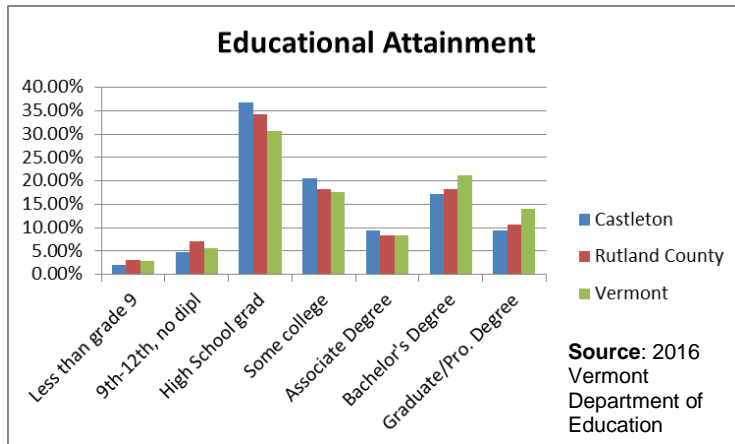
- ❖ Continue to permit the use of single family homes in Castleton for small-scale family child care facilities that meet state and federal regulations.

# EDUCATION

Castleton is a member of the Addison-Rutland Supervisory Union along with Benson, Hubbardton, Fair Haven, Orwell, and West Haven. Castleton is unionized with neighboring Hubbardton forming a K-8 elementary / middle school. The K-5 building is located on Route 30 in Castleton, and 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> graders attend the Village School located on Mechanic Street in downtown Castleton. Grade 9-12 students attend Fair Haven Union High School (FHUHS), a six-community union school of 385 students, located on the Mechanic Street Extension in Fair Haven. Since the date of the last town plan, the school districts have consolidated.

## Educational Attainment

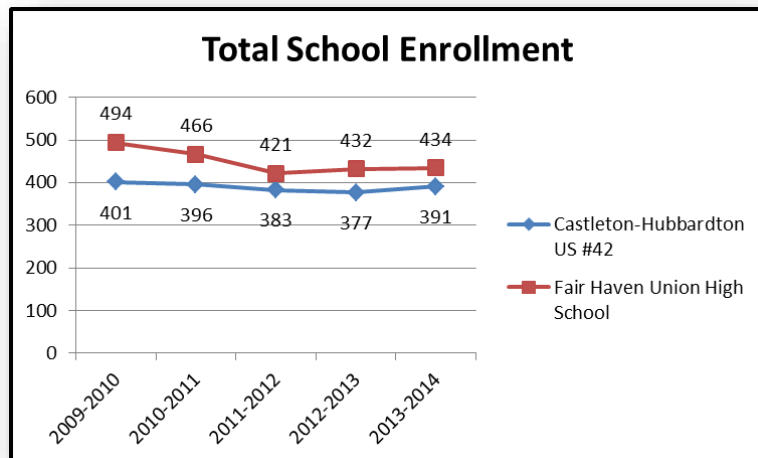
Castleton had a greater concentration of residents who had completed *at least* some college than the region, or the state in 2000. Nearly 53 percent of all residents of the town continued their education past high school, compared with 48 percent for the county.



## HubbardtonUnionSchoolDistrict # 42

## K-8 Existing Facilities

Castleton-Hubbardton Union School District # 42 includes Castleton Elementary for Castleton and Hubbardton students grades K-5 and the Village School for grades 6, 7 and 8. Castleton Elementary, located on Route 30, was built in 1971 on 42 acres. It is a 64,000 square foot two-story building with approximately 38 rooms. The Village School was built in 1955 and is located on 4.55 acres.



## Statistical Indicators

Table 1 provides a summary of several statistical indicators of trends at the Castleton Elementary and Village Schools. Similar to Rutland County averages, total school enrollment has been decreasing over the past few years.

### Castleton Hubbardton US #42: General School Information

School Participation Information	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	State of Vermont 2016-2017
<a href="#">Total School Enrollment</a>	377	391	371	352	372	67409
<a href="#">Attendance Rate</a>	95.47%	95.59%	94.35%	95.33%	95.59%	94.57%
<a href="#">Retention Rate</a>	0.0%	0.54%	0.00%	0.00%	0.0%	0.54%
<a href="#">Student/Teacher Ratio</a>	9.91	9.95	9.93	12.11	11.00	10.57
<a href="#">Individualized Education Plan</a>	15	14	12%	17%	19%	15.0%

**Table 1:** Castleton-Hubbardton Union School District # 42, Grades K-8 Statistical Indicators

**Source:** Vermont Department of Education

### Castleton Hubbardton US #42: Staff Information

	2010-2011	2011-2012	2012-2013	2013-2014	State of Vermont 2013-2014
<b>Classroom teachers</b>	9.35	34.63	33.4	34.4	12,578.69
<b>Student Support Staff</b>	1.22	8	7.71	7.9	1,333.45
<b>Instructional aides</b>	3.49	26	27	24.8	4,203.34
<b>Instructional Support Staff</b>	.80	3	3	3	501.4
<b>School Administrators</b>	2.00	8	8	8	1,283.53
<b>General Administration</b>	0	0	0	0	177.37
<b>Other staff</b>	2	6	6	7	2,533.67
<b>Average teacher salary</b>	\$45,678	\$44,916	\$44,897	\$45,463	\$55,903

**Table 2:** Castleton-Hubbardton Union School District # 42, Grades K-8 Statistical Indicators

**Source:** Vermont Department of Education

## Fair Haven Union High School

### 9-12 Existing Facilities

The main building of the Fair Haven Union High School was built in 1957. Located on Mechanic Street Extension in Fair Haven, the school has a capacity of approximately 670 students.

## Statistical Indicators

Table 3 and 4 provide a summary of several statistical indicators of trends at Fair Haven Union High School. Similarly to the K-8 statistics, total school enrollment has declined significantly.

### Fair Haven UHS #16: General School Information

School Participation Information	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	State of Vermont 2016-2017
<u>Total School Enrollment</u>	432	434	437	448	407	22711b
<u>Attendance Rate</u>	93.94%	92.66%	91.14%	93.10%	93.12%	94.57
<u>Retention Rate</u>	%	%	%	%	%	%
<u>Estimated HS Cohort Graduation Rate</u>	84.55%	90.00%	87.23%	88.19%	88.79%	89.13%
<u>Student/Teacher Ratio</u>	9.91	9.95	9.93	12.11	11.00	10.58
<u>Eligible Special Education</u>	N/A V	14.35%	22.34%	14.32%	15.25%	15%
<u>9-12 Dropout Rate</u>	10.00%	4.55%	6.38%	6.30%	8.62%	7.17%

**Table 3 & 4:** Fair Haven Union High School Statistical Indicators (2009-2014)

**Source:** Vermont Department of Education

### Fair Haven UHS #16: Staff Information

	2013-2014	2014-2015	2015-2016	2016-2017	State of Vermont 2016-2017
<b>Classroom teachers</b>	49.9	43.9	43.6	43.6	12,578.69
<b>Student Support Staff</b>	7.30	8.39	8.38	8.4	1,333.45
<b>Instructional aides</b>	16.42	20	22	22	4,203.34
<b>Instructional Support Staff</b>	7.80	5	4	4	501.4
<b>School Administrators</b>	6.75	9	7	7	1,283.53
<b>General Administrators</b>	0	0	0	0	177.37
<b>Other staff</b>	11.60	8	8	9	2,533.67
<b>Average teacher salary</b>	\$52,442	\$50,930	\$51,242	\$52,780	\$59,073

## Castleton University

Castleton University, founded in 1787 with a charter from the Vermont General Assembly. It is the oldest college in Vermont, the fifth oldest college in New England and the eighteenth oldest college in the United States. The College saw dramatic growth in students and its stature in the 1920s and 1930s and with increased enrollment of men began intercollegiate athletics in the 1950s. In 1962 Castleton joined other state supported colleges in becoming a part of the Vermont State Colleges, a consortium of five colleges governed by a common board of trustees, chancellor and Council of Presidents, each college with its own president and deans.

Castleton, an NCAA Division III level college, added varsity football along with a new stadium in 2009 and now has 28 varsity sports, competing in both the North Atlantic Conference and the Eastern Collegiate Athletic Conference.

Castleton continues to expand its facilities, programs and student population. The University offers 58 academic programs to approximately 2,000 students and is dedicated to the intellectual and personal growth of students through excellence in teaching, close student-faculty interaction, numerous opportunities for outside-the-classroom learning, and an active and supportive campus community. Castleton strives to learn, use and teach sustainable practices. The University prepares its graduates for meaningful careers; further academic pursuits; and engaged, environmentally responsible citizenship.

## **EDUCATION GOALS, POLICIES AND PROGRAMS**

### **Goal**

Each institution in the Castleton school system will, in partnership with the community, promote in all students the knowledge and skills necessary to become independent thinkers, lifelong learners and responsible productive citizens.

Continued open communication between parents and the schools' boards and administration as well as active support and involvement of community residents in the school's curriculum, programs, and activities will help to insure that the high standard of education provided to Castleton's children is maintained.

### **Policy 1**

Challenge all children to be responsible and productive citizens and expect high performance of all students.

### **Programs**

- ❖ Provide a safe and orderly environment conducive to learning.
- ❖ Provide the resources, staff, and facility necessary for each student to achieve his/her individual potential.
- ❖ Provide an integrated, diverse, and challenging curriculum that meets the changing needs of students.
- ❖ Provide and adequately fund a wide variety of co-curricular/extracurricular activities that promote students' personal and social development.
- ❖ Improve student performance through professional development efforts for administration and faculty in annually identified focus areas.
- ❖ Take an innovative approach to the use of new technology for learning purposes.

### **Policy 2**

Encourage all parents, teachers, students and citizens to work together toward educational goals

### **Programs**

- ❖ Provide regular opportunities for teachers, parents, and citizens to communicate openly (school open house, parent teacher conferences, school board meetings, etc.).
- ❖ Maintain an "open door policy" wherein parents are encouraged to contact school administrators whenever they feel a need to discuss an issue or event that concerns the welfare of their child.
- ❖ Promote opportunities for parents and residents to get involved in school programs and activities.



### Policy 3

Control the cost of education.

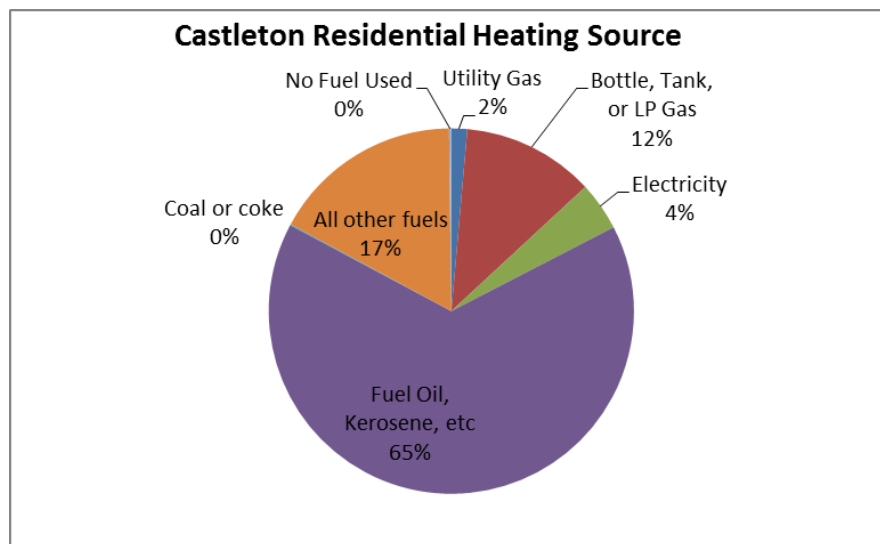
### Programs

- ❖ Match expansion of the school systems to the town's economic ability to support additional costs.
- ❖ Ensure that additional infrastructure costs, such as expansion or renovation of schools, which become necessary as a result of residential growth, are borne by the developers.
- ❖ Continue capital budgeting for future need.

## ENERGY

### Residential Heating

Heating and other related household activities account of 31% of all energy use in the State. Most home energy use in Castleton is provided by heating oil, propane, wood and electricity.



**Source:**  
2014 ACS

### Electricity

According to the Vermont Department of Public Service, nearly 40% of the energy consumed in Vermont comes from electricity. GMP's power is purchased mainly through long term contracts with solar arrays and with Hydro-Quebec (38.2%). While both of these energy sources are reliable and stable, there is some uncertainty about the long-term viability of these sources due to the approaching expiration of their contracts. wood (3.4%), oil (1.5%), GMP Cow Power (0.1%), and other sources.

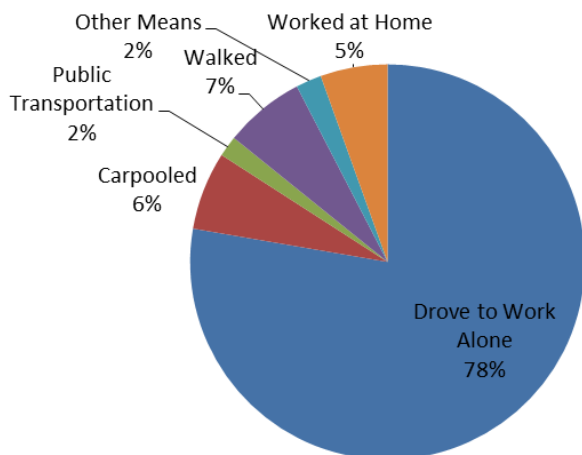
Green Mountain Power (GMP)

serves the electricity needs of the town. There are two substations in the community; one in Castleton and the other in Hydeville. The town is served by a 12.5 KV distribution system.

### Transportation

Transportation is a significant source of energy use in the Rutland Region and Vermont as a whole. According to the Vermont Department of Public Service, transportation accounts for 31% of all energy consumed in 2000 in Vermont. Private automobile use is the primary source. 33% of Castleton residents work outside of the town. The average commute time is 22 minutes.

### Mode of Travel to Work, Castleton



**Source:**  
2014 ACS

According to the Vermont Department of Public Service, energy consumption in the transportation sector increased by 23% between 1990 and 2001, resulting in a proportional increase in CO<sub>2</sub> emissions generated by transportation. Cutting costs for transportation will mean promoting the use of more efficient vehicles, encouraging pedestrian friendly development and developing public transportation options.

**Source:** VTDEC Greenhouse Gas Emissions Update 1990-2012

### Renewable Energy Sources & Conservation Measures

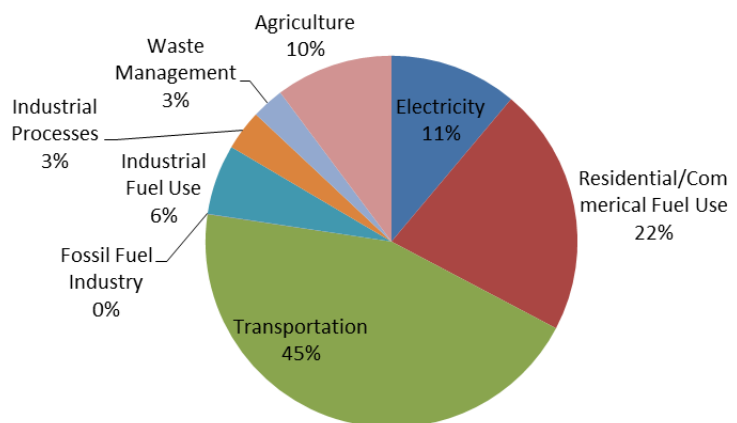
Solar energy is an important renewal resource. The solar resource available to much of Vermont may not be enough to provide the total energy needs of a household, but can contribute significantly as a substitute to electric heat and hot water. Solar energy can be harvested through solar panels in the form of electric current to power appliances or as a passive energy used to heat a home. Passive solar design uses the sun's energy in heating a structure so that the need for supplemental heat is greatly reduced.

Wood which is also a renewable resource when well managed, is sustainable, and is often used for home heating fuel. When a forest is managed so that for every tree cut there is a tree planted, a no-net-carbon-gain occurs. Using wood as fuel is both renewable and environmentally friendly.

Small WECS (Small Wind Energy Conversion Systems) are good renewable resources for a household and can contribute to a utility distribution system.

Hydro-power is a renewable resource which could be used in Castleton.

### Vermont Sources of GHG Emissions



The character of the town of Castleton and the surrounding communities of Ira, West Rutland, Hubbardton and Pittsford is defined by the rural mountain setting and the pattern of undeveloped ridgelines. In 2012, the Select Boards of each of these towns unanimously voted to oppose ridgeline development of commercial/industrial wind power.

Construction of large commercial/industrial wind towers and related infrastructure such as roads, power lines and staging areas on any of Castleton's ridgelines would undermine the specific goals and policies established for the ridgelines, and must be avoided.

Commercial/industrial scale wind development would threaten the character of the surrounding towns; would be incompatible with the town plans of these communities; and must be avoided.

Castleton supports incentives to encourage the exploration of renewable energy sources such as wind, water, micro-hydro, biomass and solar power, provided they fit with the natural environment and surroundings and conform with the other goals of this plan.

Although municipalities have little control over the fluctuations in the global energy market, there are many steps they can take at a local level to help their citizens and government offices function cost-effectively and with the smallest possible impact on the environment:

- **Efficient building design** - low-flow toilets and shower heads; energy efficient appliances and lighting; using local materials during construction; passive heating and cooling, through building orientation, proper fenestration and landscaping; solar hot water; super insulation and renewable heating sources such as geo-thermal heat pumps.

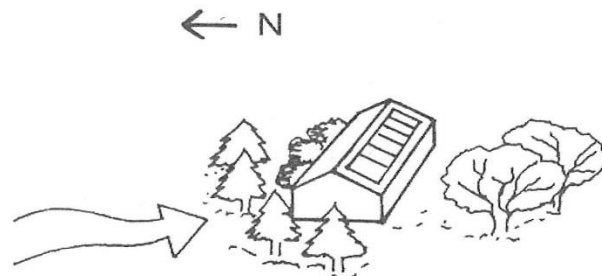


Illustration shows basic building orientation and landscaping that maximizes passive heating and cooling.

- **Development Patterns** - Land use patterns are a significant factor in determining energy demand and transportation is the leading source of energy use in the Region and State. Compact development and mixed use village/town center development helps reduce demand for transportation by locating many goods and services in the same place and facilitates pedestrian and bicycle modes of travel. Supporting compact development surrounded by more rural open areas also maintains the traditional land use pattern that residents and visitors associate with the history and character of the region

### **Ideas for Promoting Community Energy Efficiency:**

- Conduct energy audits and energy efficiency upgrades to public buildings
- Residential building audits and energy efficiency upgrades
- Enact land use bylaws which promote compact development patterns and discourage “strip” development and sprawl.
- Purchase energy efficient appliances
- Lights out policies (night-time, not in use)
- Municipal street light change-out programs
- Water treatment efficiency retrofits (grey water reuse, high efficiency pumps)
- Building sidewalks and bike paths
- Acquire and managing (sustainably) town forests
- Encourage citizen participation in statewide and regional energy programs such as: Button-Up Vermont, Vermont Community Energy Mobilization, Way-to-Go Commuter Challenge, No Idling Campaign and the Rutland County Energy Challenge sponsored by the Rutland Regional Planning Commission.

## **ENERGY GOALS, POLICIES AND PROGRAMS**

### **Goal**

Reduce energy consumption where possible.

### **Policy 1**

Improve energy efficiency of town operations as well as public, commercial and residential buildings.

### **Programs**

- ❖ Encourage all new public and commercial construction to meet advanced energy standards.
- ❖ Encourage residents to take advantage of NeighborWorks of Western Vermont for energy efficient testing and loans for insulation, windows, etc.
- ❖ Encourage residents and businesses to utilize the resources of energy efficient programs such as “Efficiency Vermont” and GMPS’s economic development incentives to help improve home and commercial energy efficiency.
- ❖ Conduct an energy audit of public buildings to evaluate potential energy savings and encourage local businesses to do the same.
- ❖ Encourage installation of outdoor lighting in accordance with the guidelines in the *Outdoor Lighting Manual for Vermont Municipalities*.

### **Policy 2**

Promote more energy efficient methods of land use and transportation.

### **Programs**

- ❖ Encourage siting of buildings so as to reduce energy costs, such as solar orientation, use of natural windbreaks, shade trees and development in previously existing growth centers.
- ❖ Encourage the use of carpools, vanpools, and public transit for commuters and others.

## **NATURAL RESOURCES**

The natural environment has played an important role in shaping Castleton's image, appearance and attractiveness to town residents, seasonal homeowners and tourists alike. Lake Bomoseen is one of the most actively used water bodies in Vermont and clearly of great importance to Castleton's seasonal visitor economy. Many rolling forested hills and mountains, quiet trails, scenic rivers, ponds and wetlands round out the town's lush landscape. Castleton Natural Resource Maps 1 and 2, located at the end of this section, depict each of Castleton's principal natural resources as well as areas of land use regulation designed to protect natural features as well as the health and safety of humans and wildlife.

### **Climate**

Castleton's climate is classified as humid, continental, with cool summers; meaning there is wide daily and annual variation in temperature and variability between the same seasons in different years. The average annual precipitation in the town ranges from 38 to 42 inches and the mean annual snowfall is just less than 60 inches. Higher elevations may, however, receive considerably higher amounts of precipitation.

### **Topography**

The Town of Castleton is located entirely within the Taconic Range characterized by rugged mountains with irregular topography and elevations approaching 2,200 feet. The western half of the town consists of Taconic Foothills, which are a series of oval shaped, north-trending hills averaging 500 feet in elevation. The higher elevations of the Taconic Mountains rise in the eastern half of the town, including Bird Mountain (elevation 2,216'), Grandpa's Knob (elevation 1,976') and Blueberry Hill Peaks ranging in elevation from 1,245 to 1,918 feet.

### **Geology**

The most common formation underlying the town yields purple, gray, green, and variegated slates in the western foothill portion of the town. The West Castleton formation is another dominant geological formation in the town. This formation is a gray to black slate.

### **Agriculture and Forest Resources**

Agriculture and silviculture are not only important economic activities in Vermont, but are also the foundation of a highly valued rural lifestyle and a significant factor in shaping the landscape. Land capable of supporting agricultural uses requires prime agricultural soils as well as moderate slope, adequate parcel size, and access. Like agriculture, forestry is an important activity in the state and region. Lands capable of supporting forests are critical to the support of silviculture, a Vermont tradition, as well as providing wildlife habitat, and places for recreation.

Primary agricultural soils are depicted on Castleton Natural Resources Map 2. The Natural Resource Conservation Service (NRCS) has classified Vermont's soils into four categories with respect to their potential for agriculture – highest, good, low and limited. NRCS recommends that highest and good categories qualify as primary agricultural soils as defined in Act 250. As is the case with most Vermont towns, there are a number of active farms in Castleton sustaining families and making an important contribution to the economy and the culture of the town.

Castleton's upland hills and mountains remain undeveloped due to their inaccessibility by town roads and the limiting influence of steep slopes and shallow soils. These areas are forested with trees of the northern hardwood association. There are also several extensive land areas in Castleton that are owned by the state (2287.5 acres in total). Lands under the jurisdiction of the State include Love's Marsh and Blueberry Hill Wildlife Management Areas that are managed by the Fish and Game Department. Bomoseen State Park, located in West

Castleton, fronts, in part, on the lake and is under the management of the Department of Forest and Parks. The Town of Castleton owns a town forest (96 acres), a short segment of shoreline in the Crystal Beach area (5.9 acres), and a small parcel adjoining the Crystal Beach area to the north (5.9 acres).

## **Water Resources**

### **Watersheds**

A watershed is a land area, also known as a drainage area, which collects precipitation and contributes runoff to a receiving body of water or point along a watercourse. All land uses that occur in the watershed can affect water quality. Because rivers join to become larger rivers, many watersheds may be considered sub-watersheds of larger ones. The Town of Castleton is located in the north central portion of the Lake Champlain Watershed, one of 17 major drainage basins classified by the state (see Figure 11). The Castleton River and its tributaries drain the majority of the town, including Gully Brook, North Breton Brook, Pond Hill Brook and Lake Bomoseen.

### **Surface Water**

Surface water resources, which include lakes, ponds, rivers, streams, and wetlands provide many important benefits. Surface waters support economic activities such as agriculture, manufacturing and processing; residential activities such as drinking and cleaning, and recreational activities such as swimming and boating. They also serve as habitat for wildlife and as an important component of the hydrologic cycle.

Significant bodies of water in Castleton include the 2,360 acre Lake Bomoseen, 202 acre Glen Lake, 42 acre Pine Pond, 62 acre Love's Marsh, and the town's largest flowing water body, the Castleton River.

Discharges to the surface waters in the Rutland Region occur from a variety of sources and involve a wide range of pollutants. Sources are generally described as either point (direct e.g. industry, wastewater treatment plants) or non-point (indirect or diffuse e.g. agricultural run-off) discharges.

When surface waters become polluted, humans can be affected directly through exposure to pollutant concentrations in the aquatic environment or indirectly through exposure to secondary impacts (e.g. impacts caused by excessive algal growth resulting from nutrient discharges), incidental contact with contaminated water, and through the consumption of contaminated and/or aquatic organisms (food chain exposure).

### **Wetlands**

Wetlands are defined areas that are inundated by surface or ground water with a frequency sufficient to support plants and animals that depend on saturated or seasonally saturated soil conditions for growth and reproduction. These areas are commonly known as ponds, bogs, fens, marshes, wet meadows, shrub swamps and wooded swamps. Wetlands often occur in association with lakes, ponds, rivers and streams, creating transitional areas between dry land and open water. However, wetlands can also be isolated from any obvious connection to surface water.

Wetlands provide important wildlife habitat, but also provide other benefits such as storing storm water runoff, purifying surface and groundwater supplies, recharging aquifers, controlling erosion and providing areas for recreation.

The Vermont Wetland Rules classify all wetlands into one of three classes. Classes One and Two are considered "significant" and protected under the Vermont Wetland Rules. Class Three wetlands are not within state jurisdiction and can be addressed under municipal regulations.

Because of their many beneficial functions, direct loss of wetlands due to filling can have dramatic ecological effects besides habitat losses.

Wetlands are not only unsuitable for building construction and onsite septic systems, they also protect and enhance water quality and shoreline areas. Wetland buffer shorelines from wave impact, slow storm water runoff from uplands, remove phosphorus from the water during spring and summer growth periods and provide wildlife habitat. Wetlands slow and capture storm water runoff storing it for recharge or springs and streams or wetlands themselves at a later time.

Love's Marsh, located on the northwestern shore of Lake Bomoseen, is the most extensive wetland wholly contained within the town. Maintained by the Fish and Game Department as a wildlife management area other highly productive wetlands in Castleton include: the northeastern end of Lake Bomoseen, Pine Pond Marsh, and Lilly Pond.

Municipalities in Vermont have the regulatory tools to effectively protect wetlands. These include zoning and subdivision regulations, shoreland protection bylaws, health ordinances and flood hazard regulations.

### **Flood Hazard Areas, Floodplain Management and Flood Resilience**

Flood hazard areas are identified on Castleton Natural Resources Map 1 and on the Digital Flood Insurance Rate Map (DFIRM) for Castleton updated in 2008 by FEMA and the State of Vermont. A flood hazard area may be defined as the land areas adjacent to rivers and streams that are periodically inundated during periods of high surface water runoff. The Flood Disaster Protection Act of 1973 requires: 1) the town to regulate development in designated flood hazard areas and, 2) that property owners in flood plain areas purchase flood insurance administered by the National Flood Insurance Program (NFIP). Should the community or property owners fail to meet these NFIP requirements any federal and federally related financial assistance for buildings in the flood plain will be unavailable to either the community or property owner.

A floodplain is the flat land adjacent to rivers and streams that is periodically inundated to varying depths during periods of high water. The 100-year flood frequency is used as the standard for delineating flood hazard areas by the Federal Insurance Administration. The 100 year flood will have a one percent chance of being equaled or exceeded in any given year.

An important function of floodplains is the storage and conveyance of flood waters. New development and the associated fill placed in a floodplain can obstruct flood flows and reduce the ability of the floodplain to store water, which can subsequently cause flood waters to rise to higher levels on upstream and adjacent properties. Municipalities should consider the effects of floodplain encroachment on all properties when making land use planning and management decisions.

The most cost-effective way for towns to mitigate flood hazards is avoidance: limiting building and other investments in river corridors. In addition to preventing future flood losses to structures built in hazardous areas, this approach avoids constraining a river, allowing the stream or river, over time to become more stable. Statute 24 V.S.A. §4424 specifically authorizes towns to adopt zoning for shorelines, floodplains, and other hazardous areas, including fluvial erosion zones.

Unfortunately, most communities in Vermont rely solely on the minimum standards of the NFIP to protect their communities from flood hazards. However, all communities should recognize that floodplain management based solely on NFIP minimum regulations allows for development in floodplains that will reduce the floodplain's ability to convey and store water and will cumulatively result in increases in the 100-year flood elevation. A rise in flood waters not only can cause properties that were once flood-free to now be flood-prone, but can also cause increases in the velocity of floodwaters, thereby increasing the potential for erosion of stream banks during flooding.

In addition to not preserving the floodplains' flood storage and conveyance functions, NFIP minimum standards

do not preserve other natural and beneficial functions of the floodplain, such as water quality maintenance and protection, groundwater recharge and discharge, and biologic resources and functions, which can have negative impacts on a community's economic and other resources. Communities that adopt more stringent regulations are eligible to receive insurance premium discounts for their residents through participation in the Community Rating System.

Act 16, an act relating to municipal and regional planning and flood resilience, became law May 6, 2013. To encourage flood resilient communities, the goals of Act 156 are:

1. New development in identified flood hazard, fluvial erosion and river corridor protected areas should be avoided. If new development is to be built in such areas, it should not exacerbate flooding and fluvial erosion.
2. The protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion should be encouraged.
3. Flood emergency preparedness and response planning should be encouraged. 24 V.S.A Chapter 117 §4382 (12)(A)

The flood resiliency map indicates the number of structures in our flood prone areas. You will note the total number is 63, which indicates a low possibility of major flooding impacting structures in the town as a whole, with only 2 structures in the area with the highest chance of flooding.

### **Fluvial Erosion Hazard Mitigation and River Corridor Protection**

While inundation-related flood loss is a significant component of flood disasters, the more common mode of damage is associated with Fluvial Erosion, streambed and stream bank erosion often associated with physical adjustment of stream channel dimensions and location during flood events. These dynamic and oftentimes catastrophic adjustments are due to bed and bank erosion, debris and ice jams, or structural failure of or flow diversion by human-made structures.

Municipal adoption of a Fluvial Erosion Hazard overlay district is one of the best avoidance strategies for fluvial erosion hazard mitigation. An overlay district is an additional zoning requirement placed on a specific geographic area (in this case the FEH zone) without changing the underlying zoning. The degree of protection afforded by an FEH overlay district could include limits on structures, land use activities, or even vegetation. Limiting development within an overlay district based on the boundaries of an FEH map has two major functions. First, it will prevent development in hazardous areas, reducing costly flood losses. Second, it will prevent river corridor encroachment, which would increase overall fluvial erosion hazards and even impede a river's natural tendency to adjust toward a more stable condition.

The Vermont Agency of Natural Resources has sponsored a Stream Geomorphic Assessment (SGA) of the Castleton River. The data indicates that these streams have been highly modified in the past to make room for human investments such as roads and houses. These modifications have led to unstable stream systems resulting in increased flooding and erosion hazards and compromised habitat for aquatic species. These issues, and suggested mitigation actions to help remedy these issues, are discussed in the 2016 update of the Castleton Local Hazard Mitigation Plan. This plan also contains additional information on Flood Hazard Areas and Fluvial Erosion Hazards.

### **Stormwater**

The management of stormwater runoff is at once a simple concept and a complex problem. Precipitation runs off impervious surfaces rather than infiltrating naturally into the soil. The cumulative impact resulting from the increased frequency, volume, and flow rate of stormwater runoff events can lead to destabilization of downstream channels and can also result in increased wash-off pollutant loading to receiving waters.



Phosphorus and other pollutants in stormwater runoff are addressed to some extent for new developments in Vermont that require state stormwater discharge permits or state land use (Act 250) permits. Erosion control and stormwater management requirements are generally included as conditions in these permits and these practices help limit new sources of phosphorus loading caused by land development. However, these permits are required primarily for large projects, and many small developments may have a significant cumulative effect on urbanization and phosphorus loading to Lake Champlain. Towns can implement their own LID(Low Impact Development) site design standards and encourage GSI(Green Stormwater Infrastructure) measures, such as rain gardens and bioswales, on private and public properties.

Simple erosion control measures are possible for one or two family dwellings and accessory uses. These can include setbacks and buffers along surface waters, wetlands, and property lines so that no soil or water move into these areas. They can also include the use of stone check dams, silt fence, stormwater diversion ditches, designated areas of infiltration, seeding, and mulching. The following erosion control policies and requirements should apply to all development activity, including single family and double family residential development with accessory uses. Site visits from local regulatory individuals should be conducted to ensure compliance with these measures during construction, and to take appropriate enforcement steps if necessary.

Adequate erosion control is required on projects that go through the Act 250 development review process. However, most development is regulated not through Act 250 but through local zoning. At the municipal level, simple erosion control measures should be required for one or two family dwellings and accessory uses through the permit application process. The applicant shall provide the following information on the applicable municipal permit application:

- The locations of any surface waters and wetlands.
- How the structure and any disturbed soil will remain at least 50 feet from these features.
- Where the limits of disturbance will be and how the applicant is minimizing the area of disturbance.
- Where silt fence or stone check dams will be installed.
- Where any roof and driveway runoff will go to infiltrate once the house or structure is complete.

### **Impervious Surface Minimization and Site Design**

Impervious surfaces are surfaces which cannot be effectively penetrated by water. Examples include pavement, buildings, and gravel surfaces. There is a direct link between impervious surface coverage and phosphorus export to surface waters. Replacing natural cover and soils with impervious surfaces will lead to greater phosphorus loading to surface waters, increased runoff volume and velocity, and long-term, adverse hydrologic changes through flooding and channel erosion. Pavement areas such as streets, driveways, and parking lots, produce the most serious phosphorus runoff potential. Commercial, industrial, and high-density residential land uses often contain the most impervious surfaces used by vehicles.

Careful site planning can reduce the impervious area created by pavement and roofs and the volume of runoff and phosphorus loading. Careful site planning can also preserve the natural topography, drainage, and vegetation by preserving intact as much as possible the natural features that help retain runoff. Natural depressions and channels act to slow and store water, promote sheet flow and infiltration, and filter out phosphorus-bearing sediment.

Zoning codes and development standards affect the amount of runoff generated by projects by defining street widths, housing densities, setback distances, and other factors. Development standards should encourage minimization of impervious surfaces. Provisions for narrower streets, shorter or shared driveways, smaller parking spaces and reduced setback distances from roads should be part of urban or suburban zoning

regulations. Alternative modes of transportation such as mass transit, bike paths and commuter parking areas should also be encouraged in order to reduce the need for new roads and parking.

Towns can use subdivision regulation standards to minimize the creation of new impervious surfaces. Open space preservation should maximize natural surface water corridors and buffers. Existing parking ratio requirements should be reviewed to see if lower minimum ratios are warranted and feasible.

## **Water Quality Threats in Lake Bomoseen**

### **Development and Recreational Use**

Development and increasing recreational use are inevitable threats to all of Castleton's lakes and ponds, particularly Lake Bomoseen. There are a number of regulatory methods available to the town in order to help mitigate the impacts of increased usage in and around Castleton's lakes and ponds. The town can ensure that setback requirements for lakeside dwellings are a sufficient distance from the water's edge to allow a greater filtering distance before run-off can enter the lake, establish vegetative buffer strips along the shorelines to help prevent run-off and erosion, and require that all year-round or enlarged lakeside dwellings have properly designed and installed septic systems.

### **Eurasian Watermilfoil**

Another problem that has been identified in a number of Castleton's water bodies is the proliferation of the non-native aquatic plant Eurasian watermilfoil. A nuisance to swimmers and boaters, milfoil also threatens native plants that have provided traditional habitat for fish fry and other aquatic fauna. Permanent eradication of water milfoil is nearly impossible as it has a tremendous ability to reestablish itself after having been removed.

### **Zebra Mussels**

The stability of the Lake Bomoseen ecosystem is also threatened by the proliferation of the Zebra Mussels throughout the lake. The dark white-striped Zebra Mussels are generally about the size of a thumbnail. These mussels filter plankton, which is used as food by other organisms, and remove oxygen from the lake, both of which make it increasingly difficult for native aquatic species to survive. Zebra mussels have also been known to foul water intakes and can be carried by just about anything that has been in infested water, including gear, buckets, boats and trailers. To combat the proliferation of the mussels to other water bodies in Vermont, boaters are encouraged to thoroughly pressure-wash their boats with hot water and leave them out of the water and in the sun.

### **Asian Clam**

Lake Bomoseen from an article from the Vermont Fish and Wildlife.

#### **Invasive Asian Clam Discovered in Vermont Waters**

Montpelier, Vt. – State officials recently discovered the presence of an invasive clam species in Lake Bomoseen. The Asian clam has been documented in surrounding regions like Lake George, NY, but has not been found in Vermont until now. Asian clams, like zebra mussels, are filter feeding organisms that can deplete resources needed by native species and increase algae blooms. They can also form dense populations very quickly, clogging intake pipes to lakeside homes, industrial water systems, and irrigation canals. A summer natural resources instructor at the Vermont Fish & Wildlife's conservation camp on Lake Bomoseen identified the Asian clam during work one day and reported the finding to staff biologists. Once positively identified, the Agency of Natural Resources then surveyed the lake to determine the extent of the population, focusing on areas with suitable habitat and likely introduction points such as boat ramps, public beaches, and the docks near the Conservation Camp.

Survey results showed the clam population limited to an isolated area in the southwestern part of the lake. The area in which the species was confirmed measures approximately 14 acres, with water depths up to 8

feet. No Asian clams were found at any of the other public access areas or beaches surveyed outside this area.

It is unclear how or when the species was introduced to Lake Bomoseen, or exactly where the initial introduction occurred. Agency scientists say the presence of large, adult clams (up to 2.4 centimeters in diameter) and the relatively high density of clams in the affected area indicate that the clams have likely been in the lake for a year or more.

Like most aquatic invaders, Asian clams can be transported from one body of water to another via small amounts of water or sediment. Boaters, anglers, and other lake users should always clean, drain, and dry their equipment after use to ensure that unwanted hitchhikers, like Asian clams, are not spread to new waterbodies.

### **Lake Implementation Plan**

Lake Bomoseen is going through a Lake Implementation Plan which takes in all aspects of our lake.

These are questions and concerns raised through various forums held last year on the lake. We are finalizing the process and hope to work up to a conclusion this year. This plan will be a guideline on how we proceed with our concerns of the lake into the future.

### **Lake Bomoseen Association**

Protect, Preserve, Promote

The LBA was formed in 1956 by a group of neighbors. We continue today as friends and neighbors who love Lake Bomoseen and want to see it thrive in the future.

We value and seek to preserve the historic and natural beauty of the lake. We work to assure the health of the lake and its fauna and flora. We are intensely involved in the battle against invasive species and plants; host the Annual Picnic and monthly Socials; co-sponsor the 4th of July fireworks; encourage and promote safe boating and set out warning buoys.

We do all this in close concert with the Townships of Castleton and Hubbardton, which surround the lake and the state of Vermont, the actual owner. We partner together for preservation and lake management

### **Lake Bomoseen Greeter's Program**

Every summer through a grant from the Agency of Natural Resources administered through the Town of Hubbardton provides greeters at the two fishing accesses on Lake Bomoseen. At Keheo and Float Bridge launch areas the greeters inspect boats for invasive species. They are inspected when they arrive and leave the fishing accesses.

### **Harvesting**

The Lake Bomoseen Association is working to provide the harvesting of milfoil on Lake Bomoseen. We hope to have a program in place by the summer of 2018.

### **Ground Water**

Groundwater is water that has infiltrated into the soil through sand, gravel, or rock. The areas where groundwater is stored are called aquifers. An aquifer is a geologic formation containing enough water to yield significant quantities to wells and springs. Places where groundwater is replenished by surface waters are known as recharge areas. Groundwater is drawn from aquifers through wells. Areas surrounding wells are called areas of influence. In the same way that pollutants introduced from watersheds can affect the water quality of streams, rivers and lakes, contaminants can be introduced into ground water supplies through areas of influence as well as through direct discharge to the subsurface (as through an abandoned well or leaky storage tank). Groundwater pollution in rural areas is primarily associated with agricultural practices, road salt, and septic tank problems.

Groundwater is an extremely valuable natural resource of the Town of Castleton. It serves as the source for municipal and domestic water supplies, process water for industry, the treatment and dilution of wastes and the focus for many recreational activities.

Two large wells supply the village municipal water system. One is located on Mill Street. It is 35 feet deep and yields 130 gallons per minute (gpm). The other is located on North Road at Dewey Field. It is 25 feet deep and yields 210 gpm. The water supplying these wells lies within an unconsolidated gravel aquifer. Wellhead Protection Areas have been defined for both municipal wells and are depicted on Castleton Natural Resources Map 2. Three additional wellhead protection areas have been defined for privately managed, community water supplies located at Ft. Warren Trailer Park, at the Castleton Four Corners and in Blissville.

### **Wildlife Habitats and Fragile Areas**

Wildlife habitats and other natural and fragile areas are mapped generally by the state and include deer wintering areas (commonly known as deer yards), bear habitat, migratory staging areas for waterfowl, fisheries, and sites of rare plants and animals. A number of these features are depicted on Castleton Natural Resources Map 1. Other types of wildlife habitat include large forested tracts capable of supporting larger mammals and "wildlife corridors" such as streams and windows that help connect the habitat areas together. The Blueberry Hill area is owned and managed by the Vermont Fish and Game Department.

There are both cold and warm water fisheries in Castleton that offer excellent recreational fishing for local residents and seasonal campers. Native and brown trout are found in the Castleton River and many of its upland tributaries including Belgo Brook. Bass, perch, pike and brown trout, as well as some cold-water species, are found in Lake Bomoseen. Continued health of these habitats depends upon the maintenance of stream banks and water quality.

Lake Bomoseen is the site of several Indian campgrounds and burial grounds. The lake also supports two rare or threatened macrophyte species: the pondweed *Potamogeton friesii*, which was last documented in 1990; and the horned pondweed *Zannichellia palustris*, for which only one record from 1977 exists. Given the extent of the Eurasian watermilfoil problem in Lake Bomoseen, both pondweeds are highly threatened. A major geologic fold is located on the southeastern shore of Glen Lake. This phenomenon is the product of the geologic forces, which folded and uplifted the town. It is of prime educational value to geologists and to the general public as well. Love's Marsh, attached to Lake Bomoseen, hosts *Ceratophyllum echinatum*, a rare Vermont plant. Eurasian watermilfoil has also infested both Glen Lake and Love's Marsh.

Approximately 40 acres of fine, second-growth oak-hickory forest is located along the east shore of Lake Bomoseen. This area is representative of the oak hickory forest association that is characteristic of the Taconic Range. Although the stand is dominated by oak and hickory, beech, birch and basswood are also present. The area is presently in private ownership.

### **Riparian Buffers**

A riparian buffer is a band of vegetation between human land uses and surface waters that serves in many ways to protect the water quality and aquatic habitat of the adjacent river, stream, lake, pond, or wetland. A buffer needs to have certain characteristics in order to provide a phosphorus removal function. The most effective buffer is a natural, diverse, multi-layered plant community with a well-developed duff layer, uneven and uncompacted ground surface, natural obstacles (e.g., downed trees, rocks, branches), and no eroded or channelized routes for water to take through the buffer zone.

The phosphorus removal effectiveness of vegetated buffers depends on the width of the buffer zone, the hydrologic soil group within the buffer, the average slope of the buffer area, and the type of vegetation in the buffer. There is no minimum statewide setback or buffer requirement in Vermont. Vegetated buffers are

required on projects adjacent to surface waters that go through the Act 250 land use permit review process, but for most development activity, buffer protection depends on local level decisions.

Towns have a clear legal authority under state statute to regulate riparian buffers. A buffer requirement could be included as a district standard, and the setback and buffer distance could vary depending on the nature of the district. The Agency of Natural Resources recommends a buffer zone width of 50-100 feet for streams and 100 feet for lakes, with greater or lesser widths possible.

### **Air Quality**

Air quality has a great impact on the quality of life and the ecology of an area. Due to relatively low emission densities and relatively favorable meteorological conditions, ambient concentrations of locally generated pollutants are relatively low in Vermont by national standards. However, the Air Pollution Control Division has reported the Rutland area's particulate matter levels to be among the highest in the state, while 24 hour sulfur dioxide levels are higher than the Burlington areas. Nitrogen dioxide levels are comparable to or lower than other parts of Vermont. Overall, the Rutland Region's air pollution levels have not violated EPA standards for air pollutants. Town's like Castleton can help to maintain and improve air quality by promoting the use of public transit and carpooling, enforcing prohibitions on the burning of trash, and protecting forest resources, which can help to filter out a number of potentially harmful pollutants.

### **Open Space and Scenic Resources**

In the course of planning for Castleton's future, it is important that the presence of high quality open space and scenic resources, broad scenic areas as well as scenic landmarks, are recognized and the integrity of such resources is preserved. Scenic resources have aesthetic, historical, and economic value. Siting of future construction as well as community facilities and infrastructure should always consider the potential impact on the aesthetic qualities of the community and preserve the undisturbed integrity, wherever possible, of Castleton's quality scenic and open space resources.

## **NATURAL RESOURCES GOALS, POLICIES, AND PROGRAMS**

### **Agriculture and Forestry**

#### **Goal**

Protect Castleton's farm and forest resources for future generations to enjoy.

Clean air and water, as well as intact forests and working farms are essential to the health and quality of life of all living things that inhabit a community

#### **Policy 1**

Maintain and improve the quality of important soils, such as agriculture and forestry soils, when considering the future development of the town.

#### **Programs**

- ❖ Discourage development in areas of important agricultural and forest soils.
- ❖ Preserve farm and forest lands and maintain the working landscape through conservation, agricultural easements, and land acquisition.
- ❖ Promote the use of acceptable soil erosion control measures in development of slopes in excess of 8%.
- ❖ In zoning bylaws, adopt a Fluvial Erosion Hazard Overlay District (as explained on p 29) and/or River Corridor protections to ensure that development in hazard areas is reasonably safe and

accomplished in a manner that is consistent with public wellbeing, does not impair stream equilibrium, flood plain services, or the stream corridor.

- ❖ Require Low Impact Development (LID) for new development site design and promote Green Stormwater Infrastructure (GSI) measures for stormwater management (as explained on p 30).
- ❖ Update subdivision regulations to minimize the creation of new impervious surfaces (as explained on p 31).
- ❖ Support the reclassification of Belgo Brook to A(1) designation by VTDEC to protect its high quality waters and superior fish habitat.

## **Water Resources**

### **Goal**

Protect and retain the quality of Castleton's surface water, groundwater and wetlands resources and enhance opportunities for access, recreation, education and natural beauty in these areas.

### **Policy 1**

Prohibit any development that will degrade water quality in Castleton.

### **Programs**

- ❖ Establish and enforce setback and vegetative buffer requirements in Castleton zoning regulations for development along lakes, rivers, streams and wetlands; using state recommendations listed on page 33.
- ❖ Enforce all provisions of Castleton's shoreland zoning requirements.
- ❖ Reduce erosion and siltation of shorelines and stream banks by requiring proper stabilizing measures for new construction under Castleton's site plan review.
- ❖ Require on site storm water management measures be implemented on all new construction sites under Castleton's site plan review.

### **Policy 2**

Protect lakes, ponds, rivers, streams and wetlands from pollutants.

### **Programs**

- ❖ Discourage application of lawn fertilizers and pesticides along lakeshores and streambeds.
- ❖ Establish and enforce setback and vegetative buffer requirements in Castleton zoning regulations for development along lakes, rivers, and streams.
- ❖ Keep abreast of the results of the Department of Environmental Conservation's biological assessment program and Poultney Mettowee NRCD's phosphorus and bacteria monitoring in the Castleton Watershed.
- ❖ Seek funding for measures recommended by the ongoing stormwater master planning work funded by the Department of Environmental Conservation and conducted by the Poultney Mettowee NRCD in Lake Bomoseen and the Castleton River Headwaters.
- ❖ Keep abreast of the results of the Department of Environmental Conservation's water quality monitoring program in the Castleton River.
- ❖ Support the efforts of the Poultney-Mettowee watershed Partnership to educate the public about threats to surface water resources, best management practices to reduce human impact, and to work proactively to remediate and restore impaired, eroded or polluted surface water resources.

### **Policy 3**

Reduce or eliminate ecological threats of non-native species encroachment in Castleton's surface water

resources.

### **Programs**

- ❖ Support efforts to educate the public on the importance of proper cleaning of boats and propellers to reduce the spread of Eurasian water milfoil in Castleton waters.
- ❖ Support the manual removal of Eurasian water milfoil from Lake Bomoseen and other areas in Castleton where it has become a problem.
- ❖ Monitor the results and overall ecological effects of Sonar usage in other Vermont lakes for consideration of its application in Castleton waters.
- ❖ Keep informed of DEC monitoring efforts in Castleton waters for additional non-native threats such as Zebra Mussels, and Water Chestnuts.

### **Policy 4**

Restrict land development where water supplies are inadequate.

### **Programs**

- ❖ Ensure that Castleton's zoning and future land use development plans to direct development in areas where infrastructure and water supply are readily available.
- ❖ Encourage those using water from Lake Bomoseen to move to private wells.

### **Policy 5**

Protect wellhead recharge areas from pollution.

### **Programs**

- ❖ Promote awareness of potential groundwater contaminants.
- ❖ Encourage all fire districts and private managers of community water systems to gather the necessary information to develop Source Water Protection Plans and to identify potential sources of contaminants located within well-protection areas.
- ❖ Inventory culvert systems in the area of the town wells.

### **Policy 6**

Ensure adequacy of groundwater supplies.

### **Programs**

- ❖ Enact regulations in accordance with the recommendations of the fire districts and public comment.
- ❖ Encourage the development of guidelines to determine the capacity of town wells.

## **Flood Hazard Areas**

### **Goal**

Control development within areas subject to periodic flooding

To ensure development in the town of Castleton occurs in a manner that does not worsen flooding

To ensure the town of Castleton recovers quickly from flooding in a manner that improves the flood resiliency of the town.

To ensure the citizens, property, economy and the quality of the Town of Castleton's natural resources are protected by using sound planning practices to address flood risks.

### **Policy 1**

Continue to review development in Flood Hazard Areas for compliance to the Castleton Flood Hazard Area Regulations.

## **Fragile, Unique Habitats and Open Space and Scenic Resources**

### **Goal**

Protect fragile, unique habitats and open space and scenic resources from the adverse effects and encroachments of development.

### **Policy 1**

Ensure that all proposed developments that might affect these resources are referred to the appropriate state agency and thorough visual assessments are provided prior to approval.

### **Policy 2**

Support education of the public as to the importance and sensitivity of these resources and measures that can be taken to reduce human impact upon them.

### **Policy 3**

Support the conservation of large tracts of forest areas and open space so as to maintain critical wildlife habitat, ample corridors to accommodate seasonal migration patterns, and a scenic balance between the built and natural landscape.

## **Air Quality**

### **Policy 1**

Improve public awareness of air quality issues and steps that can be taken to reduce pollutants.

### **Programs**

- ❖ Encourage the use of public transit and ride share programs.
- ❖ Strictly enforce prohibitions against the burning of trash.
- ❖ Promote awareness of alternative, less polluting, wood-burning technologies.
- ❖ Protect forest resources and review proposed development for impact upon air quality.

## **HOUSING**

A sufficient supply of quality housing is necessary for any community that expects to have strong, healthy families and a stable workforce. Housing in Rutland County and the State of Vermont, particularly affordable



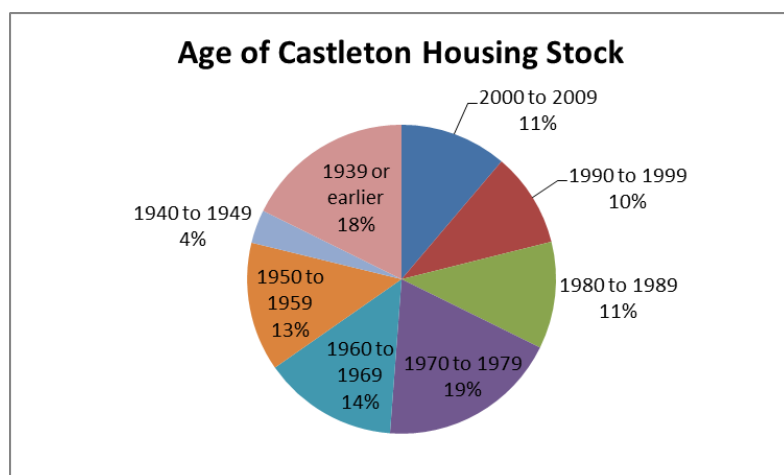
housing, is becoming an increasingly critical concern. A 2009 report by the National Low Income Housing Coalition entitled *Out of Reach*, found that in order for Vermonters to afford a modest two-bedroom apartment, including utilities and without paying more than 30% of income on housing, a household must earn \$3,046 monthly or \$36,553 annually.

According to the 2009 “Between a Rock and a Hard Place” report published by the Vermont Housing Council and Vermont Housing Awareness Campaign, the State of Vermont has the tightest rental housing market in the nation. The rental vacancy rate was 3.5%. The homeownership vacancy rate was 1.6%, the fourth lowest in the nation.

Homeownership in Vermont is also difficult for many credit-worthy households due to the high up-front costs of purchasing a home and the increase in median home sales prices in recent years. Castleton’s housing situation is influenced by the presence of Castleton University. In addition to the needs of permanent local residents, there is a demand amongst the student population for affordable rental units creating a larger market for rental housing than would be otherwise expected in a town of Castleton’s size.

## Existing Conditions

### Age of Housing



According to the 2014 Census, 18% of Castleton’s 2,216 total housing units were built before 1939, indicative of the historic nature of many homes in Castleton, particularly Castleton Village. However, with 1,467 housing units added since 1960, and the particularly significant growth during the housing boom of the ‘80s (562 units added), the majority of homes in Castleton are less than 50 years old. Figure 12 provides an overview of housing development in Castleton since 1939.

**Source:** 2014 ACS

### Housing Stock and Occupancy Status

The total number of housing units in Castleton has increased from 2,026 in 1990 to 2,216 in 2010, a total of 190 units overall. 1,171 of Castleton’s 1,617 total occupied units (72%) were owned in 2010 while 446 were rented (28%). The number of seasonal homes in Castleton has decreased from 577 in 1990 to 497 in 2010, but still represents a substantial 22 percent of the town’s housing units.

	2000	2010
<b>Total Housing Units</b>	2107	2216
<b>Total Occupied Units</b>	1550	1617
Owner Occupied	1123	1171
Renter Occupied	427	446

<b>Vacant Housing Units</b>		557	599
<b>Seasonal and recreational</b>		491	497
<b>Housing Stock</b>			
Single Family		910	1609
Duplex		35	83
Multi-family (3+ units)		20	261
Mobile Home		163	195
Other		0	0
<b>Table 5: Housing Stock and Occupancy Source: 2010 Census, 2014 ACS</b>			

**Source:**  
City-Data.com

### Household Size

The average number of residents per household in Castleton has shifted unusually in the past twenty years. Whereas there has been a national trend towards fewer persons per household, in Castleton, those figures are inconsistent. Among owner-occupied units, the average increased in the 1980s, but then decreased to below the state and national averages in the 1990s. Among renter-occupied units, the average has risen dramatically over two decades, from 1.77 to 2.26, above the regional and state levels. One likely reason for this increase in the average household size in renter-occupied units is the general increase in housing and tuition costs for students.

### Housing Affordability

Affordable housing is an average price new home or older home in good condition that a person with an average income ought to be able to buy or rent. In order to be considered affordable, housing costs should be no more than 30%-35% of a household's income. For rental housing this includes: rent & utilities (fuel for heat, hot water, and cooking; electricity for lights; water and sewer charges; and trash removal). For home ownership this includes: mortgage (principal and interest), taxes, and property insurance.

Table 6 details the number, type and price of primary residences sold in Castleton in 2008.

**Table 6: Occupancy Status**

**Source:** VT Housing Indicators Online

<b>Primary residences sold, 2008</b>	<b>Castleton</b>	<b>Rutland County</b>	<b>VT</b>
... number sold	28	401	4,880
... average price of homes sold	\$141,689	\$173,970	\$231,995
<b>Number of primary residences sold, 2008</b>	28	401	4,880
... single family homes	25	369	3,933
... condominiums	2	21	875
... mobile homes with land	1	11	72
<b>Average price of primary residences sold, 2008</b>	\$141,689	\$173,970	\$231,995
... single family homes	\$147,567	\$176,830	\$238,696
... condominiums	\$73,050	\$160,990	\$213,603
... mobile homes with land	\$132,000	\$102,809	\$89,512

According to the 2009 “Between a Rock and a Hard Place” report published by the Vermont Housing Council and Vermont Housing Awareness Campaign, the State of Vermont has the tightest rental housing market in the nation. The rental vacancy rate was 3.5%. The homeownership vacancy rate was 1.6%, the fourth lowest in the nation. A healthy, stable housing market will have vacancy rates of about 3% in the homeownership market and about 5% in rental.

It should be noted that costs for renters tend to consume a larger percentage of household income, as renters generally tend to have lower incomes than homeowners and have a larger representation of individuals over the age of 65 living on a fixed income. 2000 Census data for Castleton indicated that 37 percent of all renters and 24 percent of all owners spent more than 30 percent of their household income on housing.

Another method of evaluating housing affordability is to look at fair market rents and the wages need to afford those rents. A two-bedroom unit in Rutland County rents for \$1,075 per month. To afford that rent, an earner would have to make \$17.38 per hour or \$36,272. A minimum wage earner would have to earn 190% of the minimum wage of \$9.15 per hour to afford a two-bedroom apartment.

<b>Fair market rent (HUD), 2016</b>	<b>Castleton</b>
... 0 bedroom unit	\$765
... 1 bedroom unit	\$836
... 2 bedroom unit	\$1,075
... 3 bedroom unit	\$1,350
... 4 bedroom unit	\$1,605

**Table 7 & 8:** Fair Market Rents and Housing Wage      **Source:** National Low Income Housing Coalition

<b>Housing wage, 2015</b>	<b>Castleton and Rutland County</b>	<b>Vermont</b>
---------------------------	-------------------------------------	----------------

... 0 bedroom unit†	\$12.44 or \$25,962 annually	\$14.71
... 1 bedroom unit†	\$13.71 or \$28,613 annually	\$16.07
... 2 bedroom unit†	\$17.38 or \$36,272 annually	\$20.68
... 3 bedroom unit†	\$21.65 or \$45,814 annually	\$25.95
... 4 bedroom unit†	\$26.40 or \$55,097 annually	\$30.87
<b>Housing wage as % of state minimum wage (\$9.15), 2015</b>		
... 0 bedroom unit†	136%	161%
... 1 bedroom unit†	150%	176%
... 2 bedroom unit†	190%	226%
... 3 bedroom unit†	237%	284%
... 4 bedroom unit†	289%	337%

Castleton has publicly-assisted housing with limited subsidies. Castleton Meadows on Route 30, run by Eastpoint Properties, shelters 41 elderly individuals. Parson's Hill on Route 4A, provides housing for 12 low-income families and had a 20-year subsidy that expired in 2002, with five-year renewable periods thereafter.

### **Impact of Castleton University**

Castleton University affects the town's current and future housing inventory in several ways. For the 2015-16 academic year the enrollment was 2246 students (1955 undergraduate and 291 graduate). 1100 students were housed on campus. Thus, with on campus student housing at a premium, many students must either commute or rent apartments off campus. As a result privately owned residential dwellings have been turned into rental units by their owners to accommodate the overflow. In some instances this has taken affordable housing off the market. Coupled with faculty housing requirements, the need for off campus student housing continues to put pressure on the town's ability to provide affordable permanent housing.

## **HOUSING GOALS, POLICIES, AND PROGRAMS**

### **Goal**

Provide a variety of housing options that meet the needs of diverse social and income groups and is located conveniently to employment, services, retail centers, and educational and recreational facilities. A sufficient supply of quality housing is necessary for any community that expects to have strong, healthy families and a stable workforce.

### **Policy 1**

Collaborate with not-for-profit housing organizations, government agencies, private lenders, developers and builders in pursuing options and meeting the housing needs of local residents.

### **Programs**

- ❖ Establish working relationships with the Rutland County Community Land Trust, NeighborWorks of

Western Vermont and Housing Vermont.

## **Policy 2**

Ensure that individuals with special housing needs, including the elderly, those with physical or mental disabilities, single parent households, as well as low and moderate-income households are able to attain suitable and affordable housing.

### **Programs**

- ❖ Locate affordable and special needs housing in areas with access to appropriate services.

## **Policy 3**

Maintain and promote the historic character of housing in Castleton.

### **Programs**

- ❖ Encourage home ownership and property upkeep efforts of Castleton residents.
- ❖ Ensure that new and rehabilitated housing is constructed to meet safety and sanitary minimum standards and coordinated with existing public services (water, sewer, and transportation networks).
- ❖ Maintain a detailed inventory of the condition of Castleton's historic housing units.

## **Policy 4**

Enable our aging citizens to remain within the community by providing differing types of housing options.

### **Programs**

- ❖ Promote the development of commercial or private senior housing.

## **RECREATION, HISTORIC AND CULTURAL RESOURCES**

Recreational opportunities, high quality historic resources and cultural activities are among the principal elements that contribute to the quality of life in a community. A town's historic and cultural resources are often integrally linked as history informs culture and many cultural activities in Vermont communities' center around historical appreciation or remembrance. So too are cultural activities, such as visiting the Higley House Museum or touring a town's historic sites, recreational past-times as valuable to a community as its hiking trails or most popular swimming hole. Well-maintained historic buildings, located in cohesive recognizable districts, are not only attractive; they are good for business.

Numerous studies indicate that many people choose to visit Vermont because of its rich history and the unique local flavor and well-preserved ambiance of its towns and villages. Castleton residents echoed this sentiment in public forums and agreed that the town should explore all available measures to protect historic buildings and structures. Castleton is fortunate to be well endowed with countless recreational opportunities, historic resources, and cultural amenities as well as residents who recognize their important contribution to the community's overall quality of life.

### **Recreation**

Castleton residents have many outdoor recreational opportunities available within a short walk, bike or drive including downhill and cross country skiing, swimming, boating, fishing, hundreds of snowmobile, hiking and biking trails and several excellent golf courses. Additionally, Castleton's close proximity to Rutland City

provides easy access to indoor recreation facilities such as movie theatres, shopping centers, bowling alleys, fitness clubs, and restaurants and bars, many of which feature live music on the weekends.

Castleton has an active volunteer Recreation Commission that coordinates activities for all ages. Youth activities include softball, baseball, soccer and swimming. The town has three ball fields and two soccer fields available for resident use. A walking path with exercise stations has been completed across from the Castleton Community Center. Adult programs include fine arts, crafts, educational and sports activities. Community activities include bus trips and a summer concert series.

Lake Bomoseen, with three state-access areas, is a large recreational asset offering swimming, fishing, boating, water and jet skiing in the warmer months as well as skating, cross country skiing, snowmobiling, and ice-fishing during the winter. The town-owned Crystal Beach, located on Route 30 along the lake's eastern shore, is a popular area for picnics, volleyball, sunbathing, swimming and other warm-weather activities for residents and visitors alike. Bomoseen State Park and Campground, located on the lake's western shore provide facilities for RV's and tent camping. The Edward F. Kehoe Green Mountain Conservation Camp at Lake Bomoseen, overlooking the southwest shore, offers summer camp activities for children and teens, under the direction of the Vermont Fish & Wildlife Department.

Abandoned railway rights-of-way serve as walking paths through the Castleton University campus and South Street area. Numerous commercial facilities offer horseback riding and stables, tennis, golfing, boat rentals and marine services.

Castleton University's S.H.A.P.E. (Student Health and Physical Education) facility is available to the Castleton community at reasonable membership rates. The facility includes two racquetball courts, a fitness center, two recreational gyms and a pool. Programs are offered in aquatics and aerobics for all ages. The Athletics and Physical Education Departments, housed within the S. H.A.P.E. facility, also offer various sports programs for children. The College allows the town and school systems to use their athletic fields, when available, for sports programs at no cost.

## **Historic Resources**

The majority of Castleton's historic sites are concentrated in the village area along the Route 4A corridor. There are many fine homes of historical and architectural quality. Castleton is fortunate to have nine National Register districts: Crystal Haven, Eastern Lakeside, Southeastern Lakeside, Green Bay, Avalon Beach, Point of Pines, Hydeville, Castleton Corners, and Castleton Village. Published by the State Division for Historic Preservation, *The Historic Architecture of Rutland County*, details all of the historic districts and structures in Castleton. Listing over 100 sites, and providing photographs and detailed descriptions of many, this reference is highly recommended to anyone interested in finding out more about Castleton's cultural heritage and historic architecture. The Castleton Free Library, maintaining an archive of historic letters, photographs and articles is also a great source of information about the town's history.

Castleton has an active historical society, which sponsors frequent activities aimed at sharing stories and information about Castleton's past. The Higley Homestead on Main Street, a brick house built in 1811, is home to the Castleton Historic Society Museum. The museum's collections pertain to Castleton and include furnishings, paintings, costumes, documents, and photographs. The walls of the house feature original as well as restored stenciling. The historical society also owns the Old Cobbler Shop on Main Street and is open to the public on Colonial Day. The Society also puts on an annual potluck picnic for the public on the 3rd Thursday afternoon in June at the Hubbardton Battlefield.

## **Cultural Resources**

Castleton University hosts many cultural activities that are available to Castleton residents. The University

frequently features concerts, plays, dance troupes and an occasional comedian. Topical forums and lecture series at the College also enhance the cultural experience in Castleton. Main St. in the old Castleton Village features a number of unique art galleries displaying a diversity of sculpture, jewelry, paintings, mosaics, quilts and other fine pieces created by the hands of Castleton residents. As is the case in many communities, Castleton's library hosts nature oriented talks and activities for children and seniors.

Castleton has one of the most storied cultural histories in all of Vermont. Every effort should be made to protect and enhance the town's many diverse historic and cultural amenities.

## **RECREATION, HISTORIC AND CULTURAL RESOURCES GOALS, POLICIES AND PROGRAMS**

### **Recreation**

#### **Goal**

Maintain and enhance recreation resources and opportunities.

#### **Policy 1**

Retain and improve existing recreational activities for all ages.

#### **Programs**

- ❖ Retain the town forest lands located near Crystal Beach and develop a management plan for recreational use.
- ❖ Continue efforts to improve the quality of lake water.
- ❖ Explore opportunities for funding the improvement of existing recreational facilities.
- ❖ Maintain and improve public access areas and facilities for lake recreation.

#### **Policy 2**

Expand recreational opportunities within the town.

#### **Programs**

- ❖ Pursue opportunities for funding the development of new recreational opportunities facilities and activities.
- ❖ Work towards increased safety for cyclists by increasing signage and repainting road markings.
- ❖ Explore grant opportunities to fund multi-use paths for biking and walking.
- ❖ Promote development or expansion of passive recreation opportunities, such as creating or publicizing hiking and biking trails and ATV riding areas.
- ❖ Develop a more robust recreation program including after school and summer activities.
- ❖ Promote the creation of a recreational complex or center.
- ❖ Promote development of the land at the elementary school for recreational uses.

### **Policy 3**

Encourage commercial enterprises that provide or support recreational opportunities for Castleton residents and visitors.

## **Historic and Cultural Resources**

### **Goal**

Protect, maintain, enhance and promote historic sites, structures and artifacts important to the history and cultural heritage of Castleton.

### **Rationale**

Historic sites are an essential link to Castleton's past, represent significant social and cultural investment, and are an important and valuable consideration in planning for the town's future. In their response to a community survey in the fall of 2001, 78 percent of the respondents agreed that the town should explore all available measures to protect historic buildings, structures and sites indicating broad based support for the town's efforts in this capacity.

### **Policy 1**

Enhance, conserve and protect the architectural integrity and character of village neighborhoods.

### **Programs**

- ❖ Continue to emphasize the value of historic resources to the Castleton Select Board.
- ❖ Encourage improved collaboration between organizations in Castleton who share concerns about the protection and maintenance of the town's historic amenities.
- ❖ Consider the creation of a design control district for the village area and other areas and structures of significant historical value.
- ❖ Encourage the adaptive reuse of historic buildings as commercial enterprises or for other purposes while preserving the historic integrity of the structure.

### **Policy 2**

Maintain the quality and frequency of the many cultural events and activities available in Castleton.

### **Programs**

- ❖ Support the efforts of Castleton University and the Crossroads Arts Council to host high quality cultural programming at the University.
- ❖ Support the Summer Concert Series.

## **TRANSPORTATION**

A transportation network is comprised of all the forms, or "modes", of transportation that provide mobility to residents of an area. The compact settlement pattern of the old Castleton Village and University area lends itself well to pedestrian and bicycle traffic, while the other settlement areas in Castleton are more spread out and automobile oriented. Passenger air and long distance bus service are available in Rutland City while access to rail transportation is available in Rutland City and now in Castleton. Additionally, The Bus, provides local transportation to and from Castleton. The town also provides a Park 'n' Ride facility at Route 4A and E. Hubbardton Road. The Town shall provide a safe, efficient transportation system for residents and businesses in the community.



## **Regional Overview**

The transportation system in the Rutland Region, though containing many diverse elements, is dominated by the highway mode. This highway mode consists of a trio of major arterial routes (US 7, US 4, and Vermont 103) connecting the Region to other regions, supplemented by a web of lesser collectors (e.g., Vermont routes 22A, 100, 30 and 3) and local routes.

In Vermont, highways are also characterized by their administrative classes: 1, 2, 3 and 4. Local towns have legal authority to define access on all Class 2, 3 and 4 roads; they share jurisdiction on Class 1 roads.

**Class 1** town highways are those highways which form an extension of a state highway route (usually in a downtown area) and which carry a state highway route number.

**Class 2** town highways are those highways selected as the most important highways (after State roads) in each town. As far as practicable they are selected with the purpose of securing truck lines from town to town and to places that by their nature have more than the normal amount of traffic.

**Class 3** town highways make up the majority of local roads. The minimum standards for Class 3 highways are a highway negotiable, under normal considerations, all seasons of the year by a standard manufactured pleasure car. This would include, but not be limited to, sufficient surface and base, adequate drainage, sufficient width, and suitable for maintenance.

**Class 4** town highways are all other town highways. Select Boards determine which highways are Class 4 town highways.

## **Castleton's Highway System**

The highway system provides vehicle circulation to all parts of the town and between neighboring communities. The highway system is necessary to facilitate travel to benefit the inhabitants of the town for commerce, safety, and leisure travel.

Castleton's network includes 21.6 miles of State highways and 76.3 miles of highways in total. Like most towns in the region, Castleton has segments in all four classes described above. Castleton's only Class 1 town highway, Route 4A, runs for 1.96 miles through the village area. The towns 17.86 miles of Class 2 highways include:

- ❖ Creek Road, VT 4A to Fair Haven Town Line
- ❖ E. Hubbardton Rd., US 4A to Hubbardton Town Line
- ❖ South Street, VT 4A to VT 30
- ❖ North Road, VT 4A to VT 30

All other town highways are considered Class 3 while 4.8 miles of Class 4 has been designated by the Select Board.

US 4 is part of the regional network and has two exits in Castleton. The two major highways in Castleton are VT 4A, connecting Hydeville, Castleton Corners, and the village area; and VT 30, connecting the east side of the lake and Castleton Corners. These are both under state jurisdiction. Other highways include all of the Class 2 network, as well as Blissville Road, and Staso Road from South Street to the Town Garage and Solid Waste Transfer facility.

## **Surface Conditions**

In general, whenever gravel roads begin to carry heavy traffic, with a daily traffic count exceeding 400-1,000, they should be paved. Where paving has been extended in the past, a good base has been provided, and these

roads are performing adequately. Castleton's highway crew works hard to service the highway system as efficiently and effectively as possible and the quality of this service is reflected in the generally high approval rating of its performance. The town is dedicated to repaving at least 2 miles of road per year, as budgets allow.

### **High Accident Locations**

The main street, village area has been identified as a high accident location. Examining accidents individually reveals a number of types, mostly intersection accidents, rear-end collisions, and backing accidents. The existence of two busy intersections, at North/South Streets and at Elm Street creates a number of conflicts, as well as the right-angle parking between the post office and Mechanic Street on both the north and south sides of Main Street. The intersection of Route 30 with Rice-Willis Road (Brown's Four Corners) is also considered a high accident location.

### **Parking**

Currently, there is adequate parking in Castleton. The University generates a great deal of parking demand, but it is almost all accommodated by on-site parking. Occasionally, some does spill over onto Main Street.

### **Bridges**

Castleton has 14 bridges in its highway network as well as many large culverts, which are not technically classified as bridges but function in much the same way from a maintenance perspective. Some of the town's bridges are severely lacking in adequate maintenance due to a lack of necessary funding. Dedicated funding for bridges would greatly help to alleviate this threat to the safety and convenience of Castleton's highway users.

### **Access Management**

Access management involves a number of specific road design, land use management, and transportation management strategies to reduce the number of driveways and intersections on highways, and improve pedestrian access. The goals are to increase safety and mobility on existing roadways, better accommodate alternative transportation modes, and reduce the demand for new highways. Access management should be considered when reviewing all new development proposals in Castleton.

Towns in Vermont may regulate private access to local highways through "curb cuts", places where a private driveway or road cuts through curb (even though there may not be an actual curb in place) to gain access to town roads and highways. Authority to approve the proposed location of curb cuts lies with the Highway Foreman, which bases its decision on safety considerations such as lines of sight, proximity to intersections, etc. Access management on state highways is governed by VTrans.

### **Bicycle/Pedestrian Transportation**

As previously mentioned, Castleton's compact settlement pattern and sidewalk network, particularly in the old village and University area lend themselves well to bicycle and pedestrian traffic. The Town should work in cooperation with the State to improve the roads to accommodate bicycle and pedestrian uses as well as explore options for recreational trails. One potential trail area, already popular with local residents, is the railway corridor leading down to Poultney.

### **Public Transit**

The largest provider of public transportation to the area is the Marble Valley Regional Transit District (MVRTD) commonly known as "The Bus." The Bus provides service between Castleton and Rutland.

### **Air Transportation**

Rutland Southern Vermont Regional Airport, located in Clarendon, is one of ten state-owned and operated public use airports in Vermont. The nearest major airports to the Rutland market are Burlington International, located 67 miles to the north, followed by Albany International Airport in New York State, 80 miles to the

southwest. The airport in Manchester, NH while farther away, also serves increasing numbers of residents due to the presence of budget airlines. Plans to improve service, increasing access to the Rutland region, are under review. The Rutland airport supports one scheduled air carrier, Cape Air, which is affiliated with Jet Blue and provides direct flights to Boston's Logan International Airport.

### **Rail**

Access to passenger rail service is available to Castleton residents via AMTRAK at the renovated depot in town.

### **The Future: Castleton and the Region**

In order to increase local participation in transportation planning in Vermont, the Agency of Transportation (VTrans) supports regional Transportation Advisory Committees, or "TAC"s. The members of the TACs are appointed by the towns and they work together to prioritize projects and issues for attention by VTrans. In Rutland County, the TAC is known as the Rutland Region Transportation Council (RRTC). Castleton actively supports the efforts of this regional transportation advisory committee and will continue to participate through its designated representative.

### **Future Trends**

- There is an increasing awareness of health, encouraging people and communities to make healthy lifestyle choices. As a result, more communities are recognizing that people want facilities for walking and bicycling.
- As Rutland County continues to age, its large and increasingly elderly population will rely heavily on transit providers for their needs.

## **TRANSPORTATION GOALS, POLICIES AND PROGRAMS**

### **Goal**

Provide an accessible, cost-effective, balanced transportation system that meets the need for local and through movement of people and goods.

### **Policy 1**

Ensure the provision of adequate funding and a satisfactory maintenance schedule for Castleton's highways through effective management of local resources.

### **Programs**

- ❖ Develop a management plan for highway pavement projects.
- ❖ Develop a management plan for maintenance of town bridges.
- ❖ Examine traffic volumes and usage annually on major thoroughfares within the town as the basis for paving consideration.
- ❖ Continue capital budgeting for highway department equipment needs.
- ❖ Encourage Castleton residents to bring specific locations in which service is currently inadequate to the attention of the Highway Supervisor and Select Board.

### **Policy 2**

Ensure the provision of adequate funding and a satisfactory maintenance schedule for Castleton's highways through effective management of state resources.

### **Programs**

- ❖ Maintain regular communication with the VTrans District Transportation Administrator as to the condition and maintenance requirements of Castleton's transportation infrastructure.
- ❖ Continue to Participate in the Rutland Region Transportation Council's efforts to prioritize transportation infrastructure projects in the region.

### **Policy 3**

Improve safety of existing roads and highways.

#### **Programs**

- ❖ Dedicate a portion of the town's annual budget for the maintenance and improvement of Castleton's bridges.

### **Policy 4**

Plan future network improvements to maintain existing compact land use patterns and contain development within established centers with surrounding working lands.

#### **Programs**

- ❖ Enforce existing specifications for road construction and maintenance.
- ❖ Consider access management when reviewing all new development proposals.

### **Policy 5**

Work in cooperation with the state to improve roads to accommodate bicycle and pedestrian uses as well as explore options for recreational trails.

#### **Programs**

- ❖ Consider bicycle and pedestrian safety and uses when upgrading existing roads.

### **Policy 6**

Consider options for the improvement of public transit service in Castleton to better meet the needs of all current and potential users.

#### **Programs**

- ❖ Conduct quality of service interviews with passengers on "The Bus" on several days over a period of a few months.
- ❖ Discuss the quality of public transit service at town meeting.
- ❖ Encourage use of passenger rail service at the Castleton Rail Station.

## **ECONOMIC DEVELOPMENT**

Economic development, despite the challenges in a small community such as Castleton, is an important part of a town's planning goals. Economic development is the process by which the community sets out to improve the *climate* for retaining old and attracting new businesses that support jobs and sustain tax revenues. Like many other municipalities in Rutland County, Castleton derives most of its revenue from the taxation of local property in order to support municipal services. While the town budget is small and the town services are limited, they are no less affected by local, regional and national economics. Castleton, like other Vermont communities, will need to be more active in managing economic growth to ensure the future of its tax base and quality of life.

### **Commercial Activity in Castleton**

Castleton has a strong visitor economy particularly in the summer months when recreational activities revolving around Lake Bomoseen reach their peak. The presence of approximately 2000 full time students at Castleton University also helps support a healthy retail and restaurant economy in town. Castleton has had land available for light industrial development in recent years, but has been unable to attract significant interest from the business community to develop the land.

Economic amenities within Castleton include the educational institutions, Lake Bomoseen and the unspoiled beauty of the Town's unique landscape, especially the undeveloped mountain peaks and ridgelines, and the attractiveness of the town for tourism, slate quarries, and small businesses. Castleton University is the largest employer. It also provides the town with numerous cultural and recreational opportunities.

Lake Bomoseen is Castleton's most significant visitor attraction. Maintaining the quality of the Lake's water and the desirability of the shoreline and surrounding area are priorities. Vacation (second-home) property represents a large proportion of Castleton's total fair market real estate value.

Industrial properties in Castleton include:

- ❖ Vermont Unfading Green Slate Company
- ❖ Hadeka AA Slate Company
- ❖ Camara Slate
- ❖ Glenbrook Realty Partnership (Hubbardton Forge)
- ❖ Rutland Marble and Granite
- ❖ Ellis Inc.
- ❖ Micro Components
- ❖ Morton Building Supplies
- ❖ Browns Quarried Slate
- ❖ Browns Auto Salvage

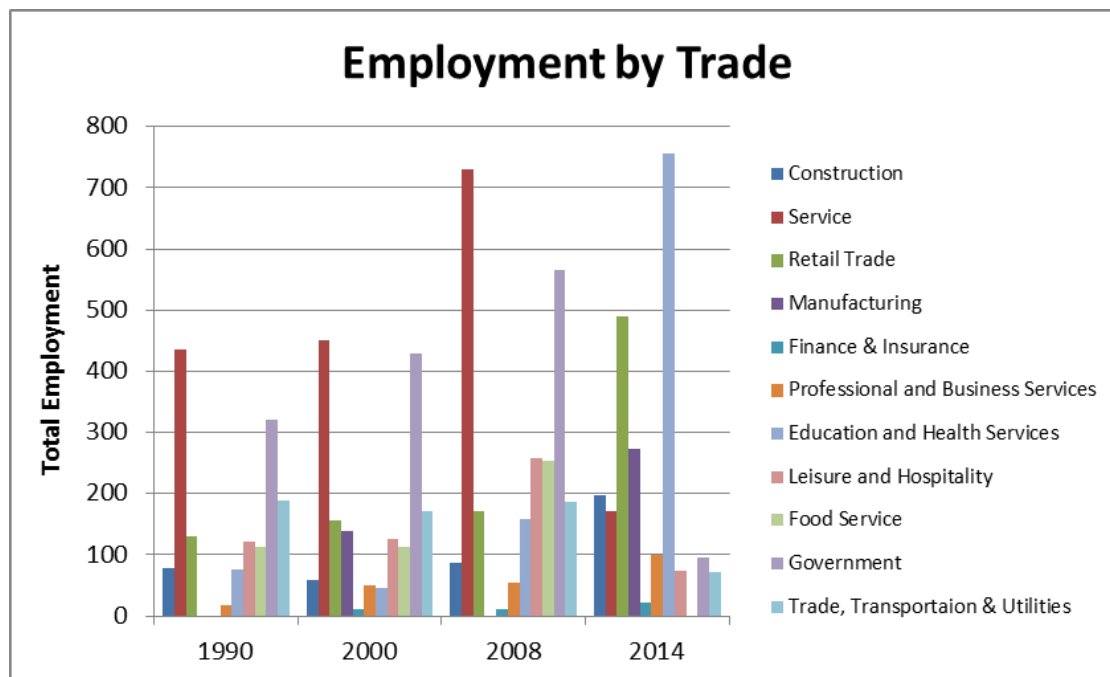
Most of the town's numerous small businesses are involved in service and retail oriented operations. There are fourteen eating establishments while the largest lodging operation has a capacity of approximately 120.

### **Castleton University**

The largest employer in town and situated within walking distance to the village area. The University has a significant impact on the economic well-being of the town because of the size of its student body, its faculty and the visitors it attracts. Local businesses that serve the needs of this potentially diverse population thrive. By its very presence, the University affords the community with educational and cultural opportunities that might not otherwise exist in the town. Additionally, both students and faculty provide volunteer services to the local schools, recreational activities and other organizations within the town. The University also makes its facilities available for use by community members or groups whenever possible, minimizing in many instances the need for private or public development of these same facilities.

### **Employment Activity in Castleton**

Figure 19 provides an overview of employment activity in Castleton. As the figure indicates, overall employment in Castleton continued to grow throughout the 1990s and 2000s. Service and Government (which includes Castleton University) are the two largest employment trades and have grown steadily since 1990. Leisure and Hospitality and Food Service also contain a large share of employment activity in town and have grown steadily since 1990. All other trades have maintained their numbers or grown slightly except manufacturing.

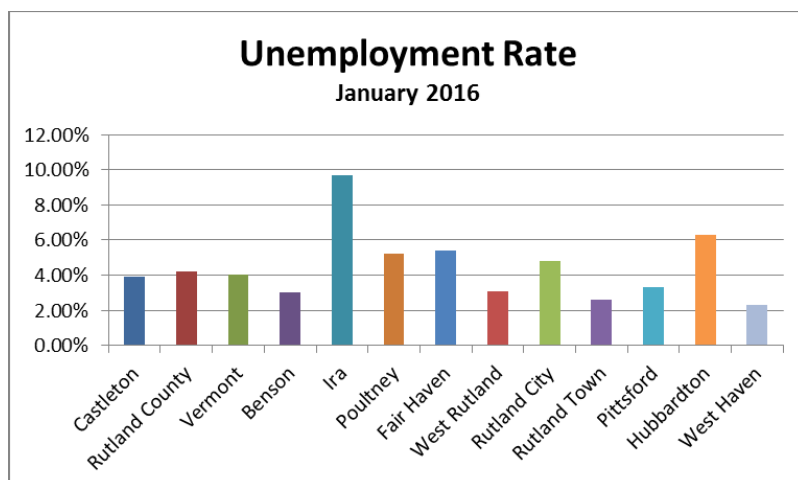


**Source:** U.S. Census, 2014 ACS

The estimated Median Household Income (MHI) in Castleton was \$50,561 in 2008. This is a 7.8% increase from the 1999 MHI of \$39,615. Castleton's MHI is above the Rutland County amount of \$46,558, however, below the State of Vermont amount of \$52,104.

### Unemployment Rate

The unemployment rate in Castleton has remained relatively consistent with the state and regional trends over the past decade. For the last three years, however, Castleton's unemployment rate has been consistently above the rates of both Rutland County and the State. As of December 2009, Castleton's unemployment rate was 9.0% compared to the County rate of 8.2% and State of Vermont rate of 6.6%. Currently, only Rutland City (10.2%), West Rutland (12.1%) and Fair Haven (10.4%) have higher unemployment rates in the Region.



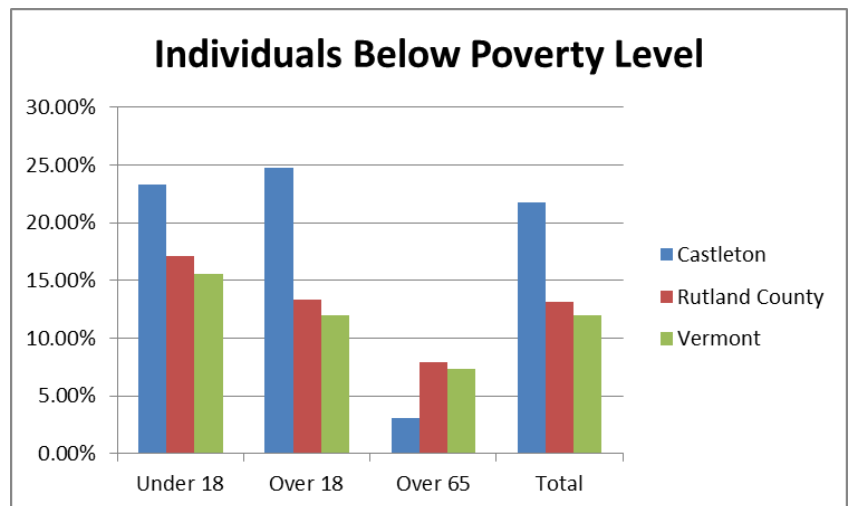
**Source:** VT Department of Labor

### Poverty Status

The poverty threshold, or poverty line, is the minimum level of income deemed necessary to achieve an adequate standard of living. The percentage of residents in Castleton living below the poverty line in 2007 was 9.8%, compared to 10.9% in Rutland County and 9.4% in the State of Vermont. Source: City Data.org. Figure 21 depicts the 2014 US Census Poverty figures by age group.

Source: US ACS, 2014

### **Economic Development Challenges facing Castleton**



- The ability to find qualified employees is constraining business growth across industry sectors. Employers have revealed that the availability of a trained workforce is limiting job growth. Skilled professionals set to retire are not easily replaced by the existing, younger workforce. This has resulted in some companies foregoing opportunities for expansion.
- The town's topography and extensive hills and mountain network place limitations on which areas can appropriately handle growth. In addition, there is a tension between the need for new development and the desire to maintain the rural character of the area.
- The loss of Castleton's two Village Center Designations hurts private property owners in those areas as they are unable to access tax credits for site redevelopment. The town will pursue re-designation of the Castleton Corners and Historic Village areas and the addition of a new Village Center Designation for the Hydeville area. These are shown on the Future Land Use Map.

## **ECONOMIC DEVELOPMENT GOALS, POLICIES, AND PROGRAMS**

### **Goal**

Maintain a sound fiscal balance for the town, encourage reasonable, functional, orderly development of facilities, utilities and services, and encourage the growth of the "informal economy" including home occupations, local artisans, craftspeople, and seasonal businesses, especially tourism and the vacation and retirement home markets; and also expanded commercial development.

The town remains well suited for professional offices seeking a quiet, scenic location in close proximity to Rutland. The town's many natural and recreational amenities and close proximity to New York State, the Canadian border, Vermont's largest ski resort as well as the presence of Castleton University, make the area very attractive for the continued expansion of the visitor economy. The cost of the provision of services for new or expanding businesses must be made based on the available tax revenues and reasonable public and private investment.

### **Policy 1**

Support existing businesses and industry.

### **Programs**

- ❖ Support the Lakes Region Chamber of Commerce and Castleton's Economic Development Committee, REDC, RRPC
- ❖ Re-apply for Village Center Designations in the Castleton Corners and Historic Village areas.
- ❖ Pursue a new Village Center Designation for the Hydeville area.

### **Policy 2**

Encourage growth and a balance of small, locally-owned businesses and light industry to stimulate the local tax base and improve local employment opportunities.

### **Programs**

- ❖ Collaborate with the Rutland Economic Development Corp to find new businesses for the community.
- ❖ Encourage hotel/motel development
- ❖ Approve tax stabilization agreements.
- ❖ Develop an industrial park.
- ❖ The town should take advantage of the GMP economic development initiatives.

### **Policy 3**

The rate of growth should not exceed the ability of the residents of the town to pay for necessary services and facilities.

### **Programs**

- ❖ Encourage businesses to locate in Castleton that will help reduce the tax burden and provide local employment.

### **Policy 4**

Public investments should further the purposes of this plan in providing for orderly and fiscally responsible growth.

### **Programs**

- ❖ Utilize the Town Plan and implementation program as a reference manual to help guide economic growth and development in a manner that benefits all sectors of the community.

### **Policy 5**

Diversification of the economic base is a primary concern of local government. Economic development should be pursued so as to provide maximum economic benefit with minimum negative environmental impact.

### **Programs**

- ❖ Maintain the scenic and recreational attractiveness of the area.
- ❖ Service the shores of Lake Bomoseen with town sewer wherever possible in order to protect this significant natural resource and expand services that support the visitor economy.
- ❖ Explore options to recruit businesses to occupy space vacated by companies that have recently relocated or plan to do so in the near future.
- ❖ Expand hotel/motel and entertainment uses on Lake Bomoseen and other areas in Castleton
- ❖ Encourage the following types of industries: technology, sustainable products, light manufacturing and light agriculture.



## **IMPLEMENTATION PROGRAM**

The Castleton Town Plan is a comprehensive guide concerning the manner in which the town wants to accommodate future growth as well as maintain the features of the community that make it special. Goals, policies and programs have been described. Implementation of the Town Plan can be regulated (zoning, subdivision, flood hazard bylaws) or non-regulatory (Designated Village Centers, Capital Improvement Plans, and other town incentives); and is a local responsibility which can only be accomplished through a continued commitment on the part of the Castleton community to see the many considered ideas in the Plan come to life.

### **Maintenance of the Plan**

The Castleton Town Plan should be periodically reviewed and, if necessary, amended to reflect new developments and changed conditions affecting the town. In accordance with the Act, the Plan shall expire eight years from the date of its adoption, unless the Select Board readopts it. Adoption of the Plan is, therefore, the first step of a continual planning process.

### **Public Investment**

Public investment is one of the most direct means to implement a Plan. By investing in infrastructure a community can encourage development where and when it wants. Public investment can include spending for water, transportation, education, solid waste, recreation, open space, housing, and more. Funds to pay for public investment can come from a variety of sources, including, but not limited to, taxation, user fees, and governmental transfers (state aid) and grants.

### **Public Education**

.Successful implementation of a Plan depends on the voluntary actions of residents and landowners. Public education regarding the Town Plan helps to convey the importance of local resources, facilities, and services and increase peoples' understanding of the need to plan for the future.

**Adopted July 9, 2018  
By the Town of Castleton Select Board**

**Prepared by the Castleton Planning Commission  
Under the authority of the Vermont State Statuts Annotated  
Title 24, Chapter 117**

## **ACKNOWLEDGEMENTS**

### **Castleton Planning Commission**

Janet Currie, Chair  
Joseph Bruno, Vice-chair  
Bruce Longtin  
Jon Pintello  
Cristine Smith  
Bob Franzoni

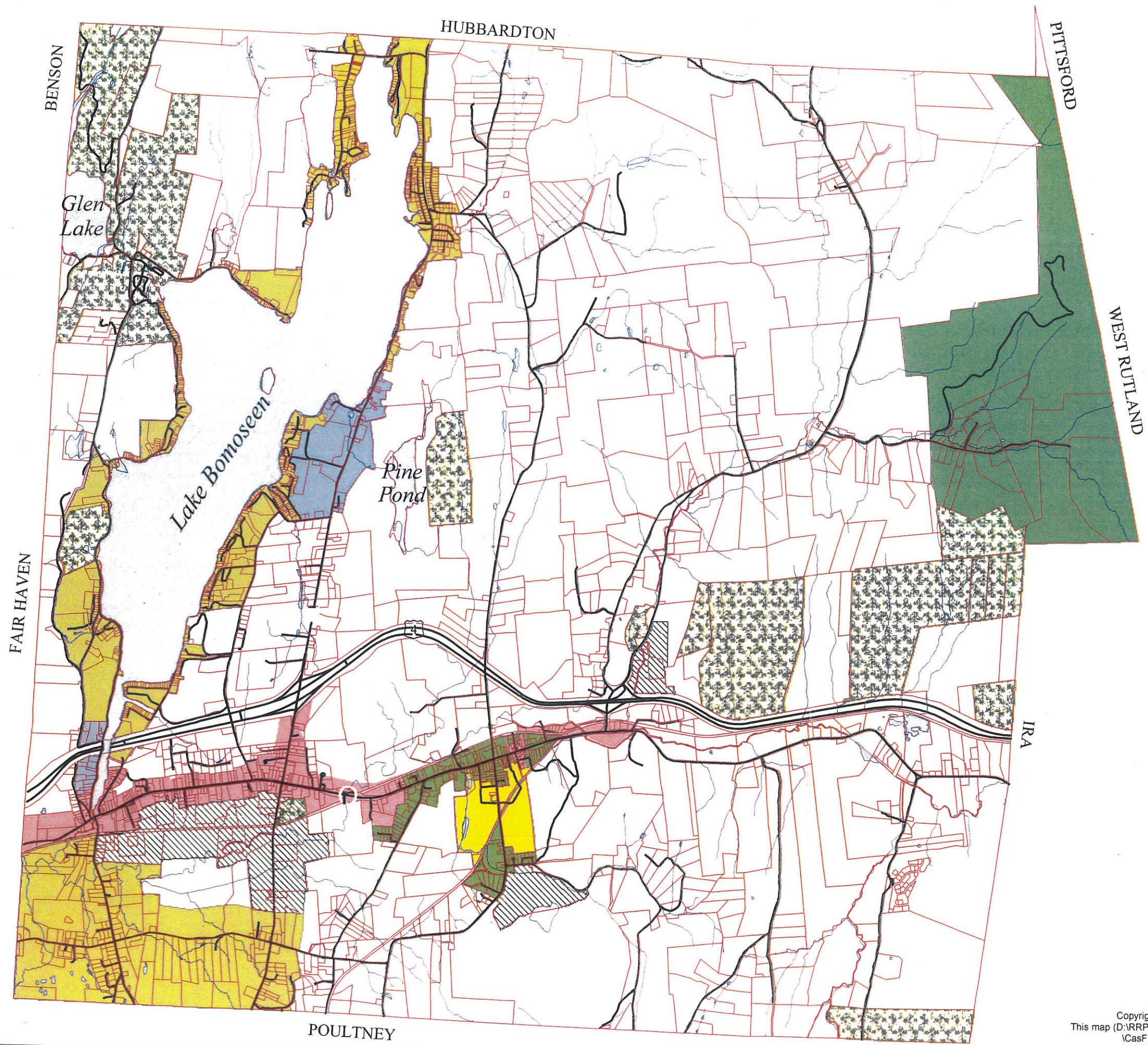
### **Castleton Select Board**

Joseph Bruno, Chair  
Richard Combs  
James Leamy  
Robert Spaulding  
Zack Holzworth





# Castleton, Vermont Future Land Use



## Legend

- Roads
- ~ Rivers or Streams
- Lakes or Ponds
- Parcels

## Land Use Area

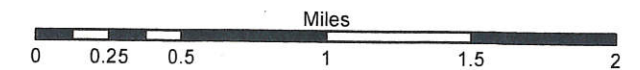
- College Campus
- ▨ Industrial
- Recreation/Commercial
- Residential 20,000 sq ft
- Residential 40,000 sq ft
- Rural Residential 2 Acre
- Rural Residential 5 Acre
- Village Commercial
- Neighborhood Commercial
- Highway Commercial
- State Land

Land Use Areas identified by Castleton Planning Commission

Surface water, roads and State Lands data are from VT Center for Geographic Information; developed from 1:5000 scale orthophotography.

Parcel Lines: Town of Castleton 2007

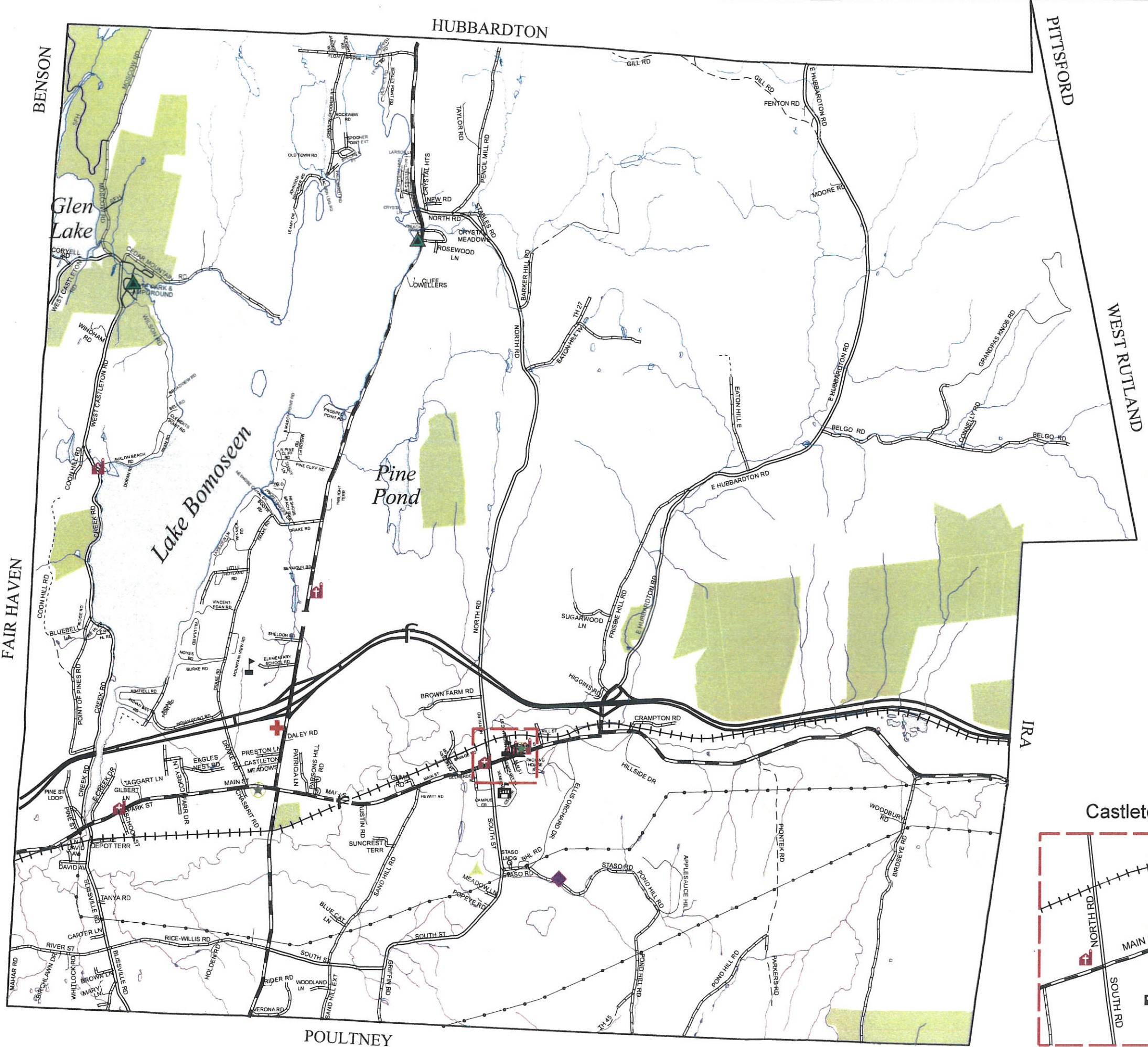
This information for general planning purposes only, it is not a legal document. Site investigations and site plan designs should be utilized prior to making any decisions based on the data portrayed.





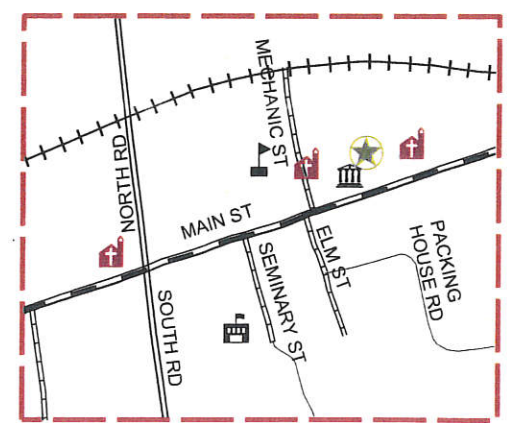
# Castleton, Vermont

## Education and Community Facilities



- Government
- School
- College
- Church
- Police
- Fire Department
- Beach Area
- Transfer Station
- US Highway
- State Highway
- Class 2 Town Road
- Class 3 Town Road
- Class 4 Town Road
- State Forest Road
- Private Road
- Other Road
- Railroad
- Power Line
- Rivers or Streams
- Lakes or Ponds
- State Land

Castleton Village

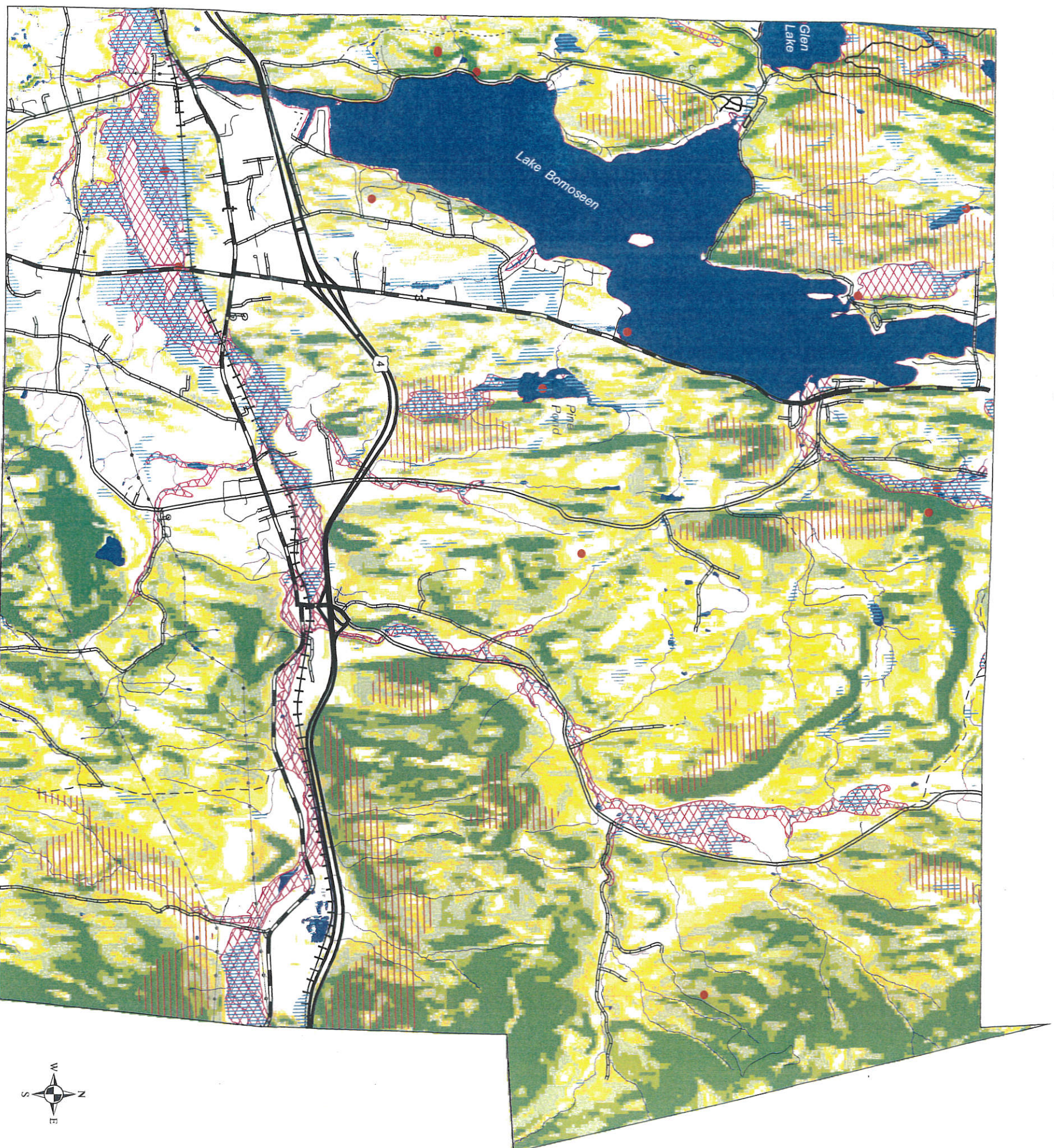


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This map (D:\RRPC\CASTLETNMAPS & PROJECTS\Town Plan maps  
V\CastED\_Comm Fac\_10.mxd) was produced on 1/20/2010



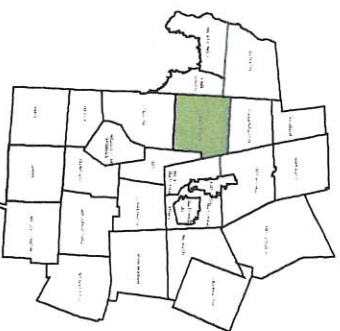
# Natural Resources

## Castleton Map 1 of 2



- |                   |                   |                        |                   |
|-------------------|-------------------|------------------------|-------------------|
| US Highway        | State Forest Road | Lakes & Ponds          | Slopes 6 - 10 %   |
| State Highway     | Private Road      | Deer Wintering Areas   | Slopes 10 - 14 %  |
| Class 2 Town Road | Railroad          | Flood Hazard Areas     | Slopes 14 - 20 %  |
| Class 3 Town Road | Electric Line     | Rare Plant/Animal Site | Slopes 20 - 24 %  |
| Class 4 Town Road | Rivers & Streams  | Wetland                | Slopes Above 24 % |

Location Map



Map intended for planning purposes only.  
For more information, please contact:  
Rutland Regional Planning Commission  
The Opera House, Third Floor, PO Box 965  
Rutland, VT 05702 (802) 775-0871

POLITICAL BOUNDARIES: 1:24000 USGS Quadrangles, VCGI, 1991-2007.

ROADS & RAIL: VT Center for Geographic Information.

ELECTRIC LINES: VT Electric Power Company.

SURFACE WATER: Vermont Hydrography Dataset using 1:5,000 digital orthophotos, USGS 7 1/2' quadrangles and 1:20,000 color infrared aerial photography and other data sources.

WETLANDS: boundaries are derived from National Wetlands Inventory (NWI) and the Vermont Significant Wetland Inventory (VSWI) and are approximate. Wetlands less than three acres in size may not be shown. The wetlands depicted are those regarded as regulatory by the VT Water Resources Board.

0.5 0.25 0 0.5 1 1.5 Miles

BLACK BEAR HABITAT: Vermont Fish and Wildlife Department, "Black Bear Habitat in Vermont, 1989"

DEER WINTERING AREAS: Ecological Habitat, DEERWV, taken from 1:24000 and 1:25000 USGS topographic quads, Vermont Agency of Natural Resources, 1997.

RARE PLANT/ANIMAL SITES: Rare, Threatened and Endangered Species & Significant Communities, 1:24000, Vermont Nongame and Natural Heritage Program, VANR, 1997.

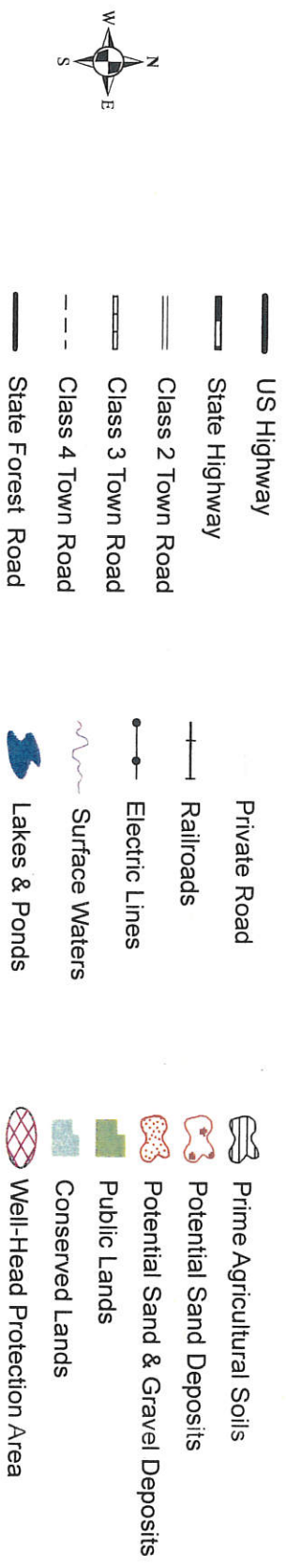
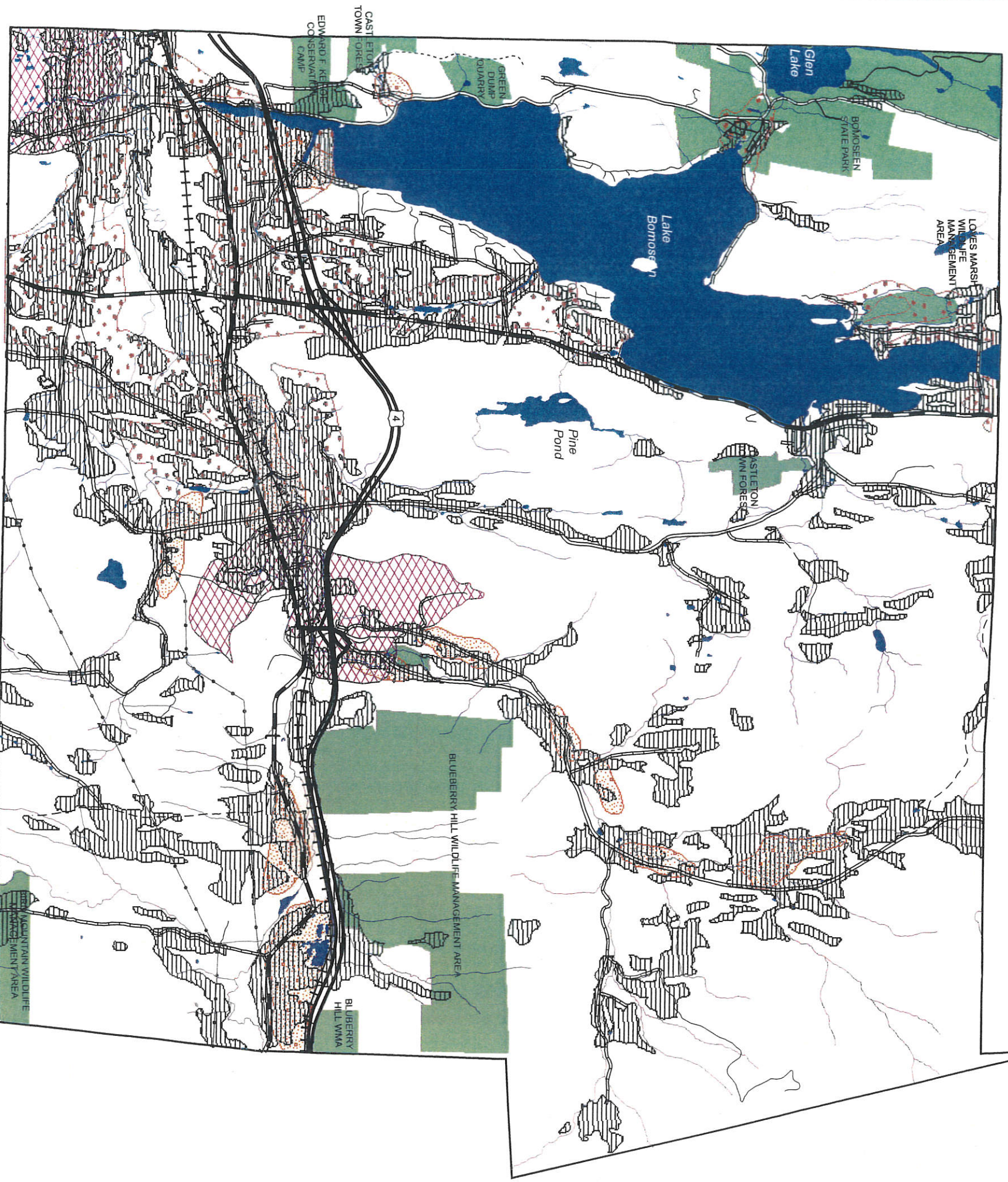
FLOOD PLAIN: DFIRM data from FEMA Flood Insurance Rate Maps, Floodplains for planning purposes only. Refer to the VANR\_DEC, Water Quality Division, Floodplain coordinator for official floodplain determinations. (802) 241-3759.

SLOPE: Slopes generated from USGS NED based 7.5' DEM24 data, 2002

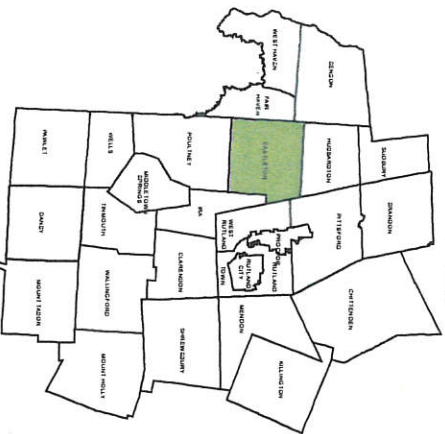


# Natural Resources

## Castleton Map 2 of 2



Location Map



Map intended for planning purposes only.  
For more information, please contact:  
Rutland Regional Planning Commission  
The Opera House, Third Floor, PO Box 965  
Rutland, VT 05702 (802) 775-0871

ROADS: VCGI database TransRoad\_RDS, taken from  
VTRANS information, 2007.

ELECTRIC LINES: VT Electric Power Company.

SURFACE WATER: Data is from the Vermont Center for  
Geographic Information, Inc (VCGI), database  
Waterhydro\_VHD or the Vermont Hydrography Dataset,  
2004.

The VHD is a subset of the National Hydrography Data Set.  
AGRICULTURAL SOILS: Prime, statewide and local are  
VT primary agricultural soils for Town and Act 250  
planning.

PRIVATE CONSERVED LANDS - land in full or partial  
ownership by 501(c)(3) conservation organizations (VLT,  
TNC, GMC, and others), a subset of the Vermont  
Conserved Lands database, 1999.

PUBLIC LANDS: VCGI dataset CadastralPublands\_CONSPUB,  
2004, a subset of the Vermont Conserved Lands database. It  
includes land owned by Municipal, State and Federal entities.

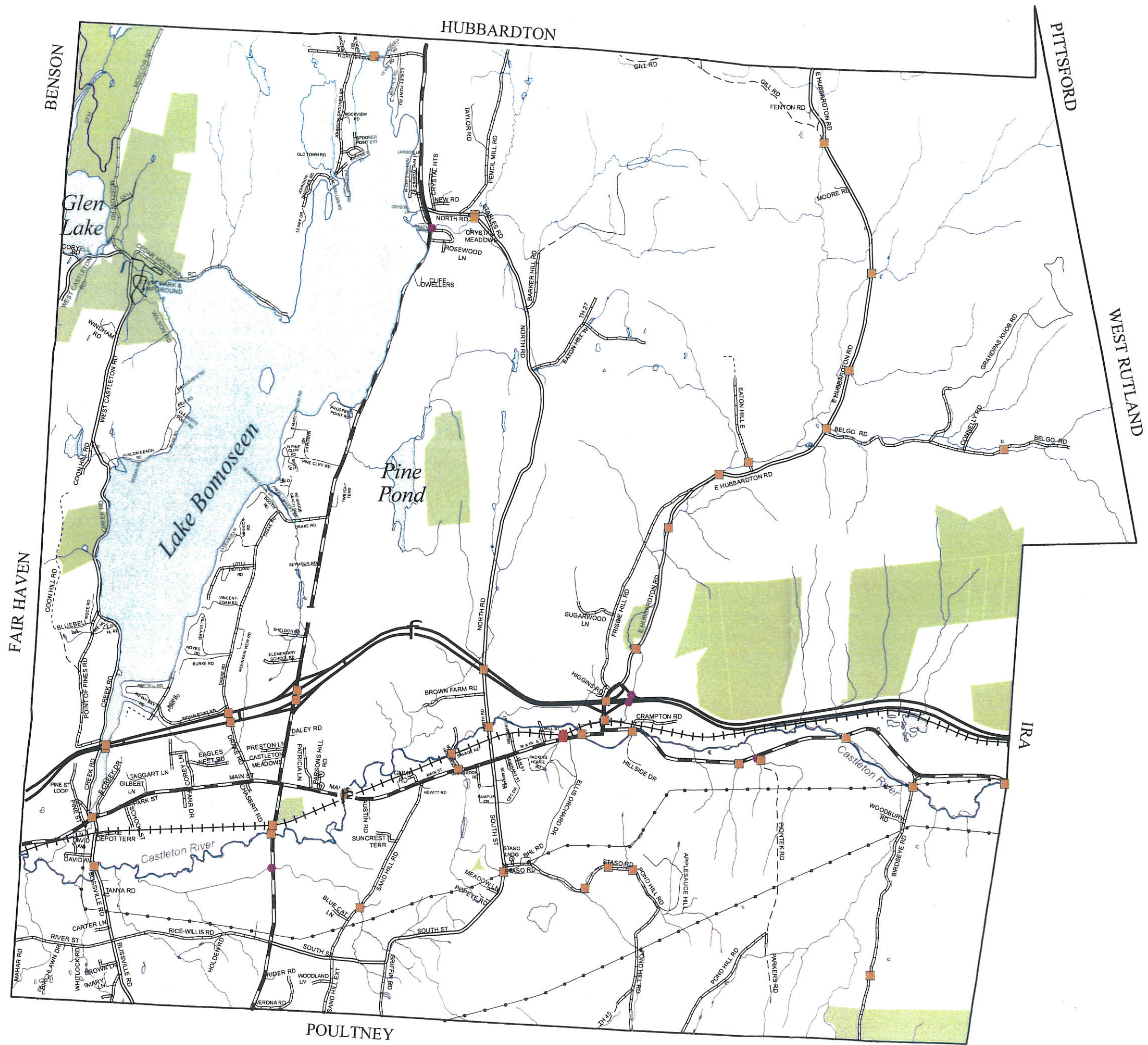
SAND AND GRAVEL: The classifications of sand and gravel  
resources are based on information developed by USDA Natural  
Resources Conservation Service. Soil data are accurate to a  
resolution of three acres, unmapped "inclusions" up to three  
acres may exist in some areas. This information is generalized. It  
should not be used for the evaluation of individual sites. Soils  
shown are based on national USDA-NRCS criteria and have  
good potential for sand and gravel deposits.

WELLHEAD PROTECTION AREAS: SPA's for groundwater  
sources (wells, springs), 1:24,000 USGS Quadrangles, VANR-  
DEC- Water Supply Division and VT Department of Health,  
1998.





# Castleton, Vermont Transportation



- Bridge
- Culvert
- Rail Station
- US Highway
- State Highway
- Class 2 Town Road
- Class 3 Town Road
- Class 4 Town Road
- State Forest Road
- Private Road
- Other Road
- Railroad
- Power Line
- Rivers or Streams
- Lakes or Ponds
- State Land

