

# **THE REGIONAL PLAN**

Bennington Region, Vermont

ADOPTED -- May 17, 2007

**Bennington County Regional Commission**

PO Box 10 – Arlington, VT 05250

(802) 375-2576

## BCRC COMMISSIONERS 2007

Ryan Shadrin	Arlington
Keith Squires	Arlington
Jeannie Jenkins, Secretary	Bennington
Daniel Monks	Bennington
Brian Knight	Dorset
Robert Hartwell, Chairman	Dorset
Meg Cottam	Glastenbury
Jerald Hassett	Landgrove
Lee Krohn	Manchester
Edward Morrow	Manchester
Arthur Scutro, Jr.	Manchester Village
Robert Howe	North Bennington Village
Charles Edson	Old Bennington Village
Margot Cosmedy	Peru
Amy Moore, Vice Chairman	Pownal
Charles Rockwell	Rupert
Gabe Russo	Rupert
Suzanne dePeyster, Treasurer	Sandgate
Julian Sheres	Sandgate
Robert Costantino	Shaftsbury
William Jakubowski	Shaftsbury
William Morehouse, Jr.	Stamford
Ronald Plock	Stamford
Bruce Whitaker	Sunderland
Edward Shea	Woodford
Robert McWaters	At Large
Philip Pugliese	At Large

## BCRC Staff

Gregory "Rex" Burke	Executive Director
James Sullivan	Senior Planner-Assistant Director
James Henderson	GIS-Senior Planner
Lissa Stark	Projects Specialist
Jeffrey Mast	Regional Planner
Collette Galusha	Executive Secretary-Bookkeeper

## TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION	1
II. GOALS	3
III. HISTORY	8
IV. PHYSIOGRAPHY	11
General Description	11
Development Suitability	12
Policies and Actions	13
V. DEMOGRAPHICS AND ECONOMIC DEVELOPMENT	14
Population and Households	14
5.1 Population Growth	14
5.2 Sex, Age, Race	14
5.3 Household Size and Growth	14
Economic Development	18
5.4 Overview	18
5.5 Income	18
5.6 Employment	19
5.7 Employment by Occupation	19
5.8 Manufacturing	19
5.9 Retail Trade	20
5.10 Tourism and Other Services	21
5.11 Agriculture and Forestry	21
5.12 Information and Technology	22
5.13 Summary	22
5.14 Policies and Actions	24
VI. NATURAL RESOURCES	26
6.1 Water Resources	26
Water Quality Standards, Classifications and Typing	26
Water Degradation	27
Watersheds	28
Lakes and Ponds	28
Rivers and Streams	30
Wetlands	33
Vernal Pools	34
Floodplains	34
Shoreline Buffer Strips	35

PAGE

	Groundwater	35
	On-site Wastewater Treatment	36
6.2	Air Quality	37
6.3	Agricultural and Forest Lands	38
	Agriculture	38
	Forests	40
	Invasive Species	41
6.4	Earth Resources	41
6.5	Wildlife Resources	42
	Rare Species and Critical Natural Communities	43
	Deer Wintering Areas	43
	Black Bear Habitat	43
	Fisheries	44
	Nuisance Wildlife	45
6.6	Unique Natural Features and Scenic Resources	45
	Recreational Resources	46
6.7	Policies and Actions	47
VII.	LAND USE	51
7.1	Urban Centers	51
	Shopping Centers and Creating Place	53
	Big Box Retail	53
7.2	Villages	54
	Pownal Race Track	55
7.3	Development in Rural Areas	55
7.4	Historic Preservation	57
7.5	Upland Forests	58
7.6	From Sprawl to Smart Growth	60
7.7	Policies and Actions	60
VIII.	ENERGY	65
8.1	Energy Conservation	66
8.2	Electricity	66
8.3	Policies and Actions	67
IX.	TRANSPORTATION	69
9.1	Roads	69
	Limited Access	70
	Arterials	71
	Collectors	71
	Local Streets	72
	Highway Improvements and Priorities	72
	Class 4 Town Roads	73
	Scenic Roads	73
	Parking	74

9.2	Public Transit	74
9.3	Pedestrians and Bicycles	74
9.4	Railways	75
9.5	Airports	75
9.6	Ancient Roads (Unidentified Corridors)	75
9.7	Policies and Actions	76
<b>X.</b>	<b>PUBLIC UTILITIES, FACILITIES, AND SERVICES</b>	<b>78</b>
10.1	Educational Facilities and Services	78
	Childcare Facilities	79
10.2	Water Supply and Wastewater Disposal	79
10.3	Recreational Facilities	80
10.4	Solid Waste Facilities	82
10.5	Public Buildings	83
10.6	Health Care Facilities	84
10.7	Electric Transmission	85
10.8	Communication and Information Services	85
10.9	Public Safety	87
10.10	Emergency Management	87
10.11	Policies and Actions	88
<b>XI.</b>	<b>HOUSING</b>	<b>91</b>
11.1	Housing Supply and Affordability	91
11.2	Housing Targets and Regional Compact	94
11.3	Policies and Actions	94
<b>XII.</b>	<b>COORDINATION AND IMPLEMENTATION</b>	<b>96</b>
12.1	Coordination	96
12.2	Implementation	97

**APPENDIX A – Regional Plan Maps (adopted as part of the plan)**

- Land Use Plan
- Public Facilities
- Public Utilities
- Existing Transportation System
- Important Wildlife Habitats
- Surface Water Classifications
- Wetlands and Flood Plains
- Agricultural Soils
- Steep Slopes and High Elevations
- Sand and Gravel Resources
- Wind Resources

**APPENDIX B – (not adopted as part of the plan)**

Appendix B is a new addition to the Regional Plan document. It will serve as a source of information and will be updated or supplemented as new information becomes available. As such, it can be modified without formally amending the plan while providing current useful information.

- B-0 Households by Town 1990-2010
- B-1 2000 Census Profile
- B-2 The Regional Profile – Contents, 1999
- B-3 Bennington County – Town Employment 1988-1998
- B-4a Employment by Industry 1990-1998
- B-4b Employment, Establishments, Wages 1997
- B-5 BCIC Economic Goals
- B-6 Bennington Economic Development Committee Goals 2001/2002/2003
- B-7 Sample Commercial-Industrial Data Base, 1999
- B-8 Growth Centers
- B-9 Smart Growth Scorecard
- B-10 Transit Providers
- B-11 Transit Routes
- B-12 School Enrollments
- B-13 Telecommunication Providers
- B-14 Telecommunication Act – 1996 Municipal Guide
- B-15 Telecommunication Infrastructure Photos
- B-16 Rapid Response Plans & Codes-Standards
- B-17 Rapid Response Map
- B-18 Housing Tables H-1 – H-8
- B-19 Municipal Plan Review Process & Confirmations
- B-20 BCRC Web Site
- B-21 Title 24 VSA Municipal-Regional Planning Goals
- B-22 Act 250 Criteria
- B-23 Unorganized Town of Glastenbury

## I. INTRODUCTION

The Bennington County Regional Commission (BCRC) was established in 1967 to assist towns with their planning activities and to promote coordination of planning efforts among the towns in the region. The development of a good regional plan was seen as a particularly important function of the Commission because such a document would provide a mechanism for encouraging compatible planning at the local level. Preparation of the first regional plan began in 1968, and with the assistance of a private consultant, was completed in 1970. Early in that same year the BCRC became the first regional commission in Vermont to formally adopt a regional plan. The 1970 Bennington County Regional Plan represented an effort to assimilate the planning efforts of individual towns to produce a document that presented common goals and a basic development concept for the region. Regional planning at the BCRC has continued to follow this sound approach up to the present time.

A number of plans have been produced by the BCRC since the initial regional plan. The most important of these was the comprehensive Bennington County Regional Plan adopted in 1976. This plan updated information presented in the 1970 plan, reinforced the regional development concept, and importantly, added clear policy statements to guide future growth and development. Addendums to the 1976 plan included a housing plan (1977) and an energy plan (1982). The BCRC has also produced a number of informational and technical reports covering such subjects as air quality, transportation, possible expansion of the Green Mountain National Forest, summaries of the region's economic and demographic statistics, the Batten Kill, solid waste management, and guidelines to implementing town and regional plans

The importance of both local and regional planning received added emphasis when Vermont's new planning law, Act 200, took effect in July of 1989. Act 200 was actually a series of amendments to the existing municipal and regional planning and development act, designed to improve its effectiveness and to promote cooperation and consistency in the planning efforts of municipalities, regions, and state agencies. Although amended somewhat during the 1990 legislative session, the basic elements of the Act remain in place. Of particular importance are twelve planning goals that must be reflected in the new regional plan. The Act also provided new funding sources for planning, open land preservation, and affordable housing; established a review process to ensure compatibility among plans; and initiated the development of a computerized geographic information system (GIS) to help in the planning process. This new plan for the Bennington Region is consistent with the goals and requirements of Act 200, and contains all of the elements required by law.

The municipal and regional planning and development act (24 V.S.A. Section 4347) describes the purpose of a regional plan as follows:

A regional plan shall be made with the general purpose of guiding and accomplishing a coordinated, efficient, economic development of the region which will, in accordance with present and future needs and resources, best promote the health, safety, order, convenience, prosperity, and welfare of the inhabitants as well as efficiency and economy in the process of development. The general purpose includes, but is not limited to recommending a distribution of population and of the uses of the land for urbanization, trade, industry, habitation, recreation, agriculture, forestry, and other uses that will tend to:

- (1) Create conditions favorable to transportation, health, safety, civic activities and educational and cultural opportunities;
- (2) Reduce the waste of financial, energy, and human resources that result from either excessive congestion or scattering of population;
- (3) Promote an efficient and economic utilization of drainage, energy, sanitary, and other facilities and resources;
- (4) Promote the conservation of the supply of food, water, energy, and minerals;
- (5) Promote the production of food and fiber resources and the reasonable use of mineral, water, and renewable energy resources; and
- (6) Promote the development of housing suitable to the needs of the region and its communities.

This plan presents a regional context for growth and development supported by specific goals, policies, and recommendations, and was developed giving due consideration to the plans of municipalities that make up the region. Consequently, a coordinated regional planning effort will be promoted if the Regional Plan is referred to during the preparation of local plans and bylaws, state agency plans, private development proposals, and plans for major capital investments. Such an effort will help ensure that our region remains an outstanding area in which to live.

## II. GOALS

This chapter enumerates a number of goals that are deemed important for the Bennington region. These statements reflect not only the planning goals of Act 200, but also the goals of previous Regional Plans. Moreover, most of the plans developed by municipalities in the region are directed toward the attainment of similar objectives. It is evident, therefore, that planning activities in the Bennington region remain focused on creating the type of environment envisioned when the current statewide planning goals were adopted.

This Plan is an appropriate vehicle to judge the effectiveness of measures taken to implement previous plans, and to establish a clear framework for planning activities and implementation over the next several years. Some of the goals may be realized by continuing to pursue current policies and directions; others may only be attained with new policies, investments, regulations, or other strategies. Each element of this Plan will detail specific policies and actions that will facilitate attainment of the following goals.

\* **Plan future growth to reinforce historic development patterns, and to provide desirable housing and economic opportunities.**

The Bennington region consists of a number of well-defined village and town centers of varying sizes separated by agricultural valleys and forested mountains. A recurring theme among municipal plans in the region, and in past regional plans, is that this special rural character should be preserved. The most effective way to realize this objective is to direct new growth to village and urban centers while utilizing appropriate regulatory and nonregulatory tools to maintain open countryside between these growth centers.

New development should benefit residents of the region by providing a range of housing and employment opportunities. Commercial uses should provide needed goods and services for residents with accommodations for the traveling and vacationing public and should be located within Village and Urban Centers. New development must also take into consideration land suitability such as water supply and sewage disposal.

\* **Protect important natural and historic resources.**

The quality of our natural resources must be protected to ensure a high quality of life for the residents of all of the communities in the region. While the natural beauty of the region is obvious to everyone who lives here or travels through the area, we must also remember that extensive practical use is made of that environment. We hike, hunt, ski, and extract timber in the forests that cover the Green and Taconic Mountain ranges; we fish, swim, canoe, and discharge wastes in such rivers as the Batten Kill, Hoosic, Walloomsac, and Mettowee; from the ground we extract important mineral and earth resources as well as our drinking water; and we all breathe the same air into which we dispose of the residue from domestic, industrial, and transport-related combustion processes.

Increasingly, these different functions may come into conflict. Obvious examples are commercial and residential development versus retention of agricultural land and open space, and projects that may aid the economy while further burdening the environment. Planning is essential to establish clear guidelines on the use of natural resources – guidelines that reflect community values. Planning gives the assurance that our natural resources can be managed to sustain their values while serving the many functions required.

Protection of historic resources is also of special interest to residents of the region. Historic resources include not only historic monuments, buildings and structures, and lands, but also archeological sites. The distinctive village centers and outlying rural areas contain sites and buildings that vividly depict the rich history and architectural heritage of the area. The unique character reflected by these historic resources provides residents with a tangible economic asset and an important sense of a common heritage, thus promoting a sense of identity and cohesiveness.

Important natural and historic resources should be identified, the adequacy of existing protection measures evaluated, and new means of protecting these resources implemented. Particular attention should be given to: significant natural and fragile ecological areas; important features of the landscape; scenic roads, waterways, and views; water resources including lakes, aquifers, rivers and streams, and wetlands; forests; prime agricultural soils; earth resources; air quality; and historic structures, sites, and districts. Today's waters are important archeological resources and were sources of food and transportation to the first Vermonters – our aboriginal ancestors. These same water resources also provided power to run mills that ground grain, sawed wood, and smelted iron.

\* **Encourage development of a strong and diverse economy.**

Economic development should provide satisfying and rewarding job opportunities, while strengthening the manufacturing, agriculture and forestry, recreation and tourism, retail, and service sectors of the economy. Some employment sectors have shown strong growth (services, retail), and manufacturing employment has started to expand after several years of decline. Manufacturing is an important sector of the region's wealth and economy. While different municipalities will emphasize different economic activities, an overall regional balance should be sought.

Assistance should be offered to municipalities and appropriate organizations and individuals to encourage economically advantageous development. There is also the desire to maintain a more strategic economic implementation program. Efforts should be made to ensure that such development is sited in appropriate locations, and that it does not result in significant degradation of the environment, or place excessive burdens on public utilities, facilities, or services.

Act 200 specifically emphasizes the need to encourage and strengthen agricultural and forest industries. This objective is certainly relevant to the Bennington region because of the historical importance of these industries and their contributions in maintaining a high quality natural and cultural environment. Existing strategies designed to support agriculture, forestry, and related industries should be reinforced and should include the protection of important agricultural and forest lands.

\* **Maintain and enhance recreational opportunities.**

The Bennington region has an outstanding natural environment that provides residents and visitors with a wide variety of recreational opportunities. Continued acquisition of land in mountainous areas by the National Forest Service should be promoted. At the same time, efforts should be made to identify particularly important recreational resources such as rivers, lakes, and trails, and to provide public access to these resources in appropriate locations. Conservation techniques may be employed to protect or improve natural resources for recreation (conservation easements, development rights, access). Experience with recreational use of the Batten Kill and certain areas in the Green Mountain National Forest has shown, however, that there is a need for improved planning to prevent damage from overuse

and to limit conflicts between different user groups. Here again, managing for the quality of recreational experiences while being protective of the natural resources is a continuing challenge. A 1993 joint study by the Towns and BCRC identified management options for the Batten Kill. Not to be overlooked are other important waterways such as the Walloomsac, Hoosic, Paran Creek, and urban waterfronts which include the aforementioned rivers. The Vermont Agency of Natural Resources has originally developed a guidance document for basin and watershed plans. The focus largely will be on water quality related issues. A process to develop plans in the Bennington Region is expected within the next two years. However, preliminary meetings will be held to discuss the objectives and process.

The region is also fortunate to have a number of popular municipal recreational facilities; the need for new or expanded facilities should be evaluated and assistance provided where needed. Privately owned recreational facilities, from ski areas to indoor fitness centers, also serve residents and visitors and must be considered in any recreation planning for the region.

\* **Provide for safe, convenient, economic, and energy efficient transportation systems.**

The local and regional road systems are of critical importance to both residents and businesses in the region. Emphasis should be placed on the maintenance and improvement of existing roads. However, timely completion of the Route 279 in Bennington, particularly its northern leg, and planned improvements to Route 7 in Pownal are critical projects and an important part of the Regional Plan. Capital investments in roads, bridges, and other transportation infrastructure should support development in planned growth areas.

Attention should also be given to alternative transportation modes, including expanded facilities for pedestrians and bicyclists, and to the recommendations for improved passenger transportation services contained in the Bennington Region Transportation Development Plan. The potential for expansion of air and rail transport in the region must also be studied and plans developed for the use and possible expansion of supporting facilities. The Transportation Advisory Committee meets on a regular basis to discuss issues, programs, and directions regarding the various forms of transportation and enhancements such as pathways.

\* **Plan for, finance, and provide an efficient system of public facilities and services.**

Public facilities and services are critical to the sustenance of existing communities, and are necessary to support future growth and development. Public sewage disposal and water supply systems are particularly important to protect public health and the environment and to enable concentrated growth in village and urban centers. The adequacy of these facilities should be evaluated and new or upgraded systems provided to serve planned growth centers. Similar assessments should be made for electric and cable television service, medical facilities and health care services, fire departments and rescue squads, police protection, and other public or quasi-public services. More recently the BCRC has developed sample bylaws for telecommunication infrastructure. The Commission is also evaluating options for siting towers within the context of a planned regional network. The objective is to have a coordinated outcome of deploying this technology and minimizing the visual impact on the natural and built environment.

The need for safe and efficient solid waste management continues to be a high priority for the region. Management efforts, developed through a collaboration of the public and private sectors, should focus on controlling costs to the extent possible and encouraging a range of techniques and innovation. The

BCRC's primary role is to monitor developments in strategies that will encourage waste reduction and recycling. Further progress in solid waste planning and project implementation will be important regional objectives in the coming years.

\* **Encourage excellence in educational and vocational training services.**

A good education is necessary for individuals who wish to fully realize their abilities and contribute to the welfare of their communities. A number of public and private elementary and secondary schools, as well as two four-year colleges, a community college, a tutorial center, and a career development center serve residents of the region. Principal concerns include the high costs of education and the property taxes that fund a large percentage of those costs, and planning for future school expansion or construction.

Building a dynamic workforce in the Region is the challenge for several providers: Vermont Department of Employment and Training, Career Development Center, Tutorial Center and adult education programs, school placements, continuing education, and training programs at various area colleges. The Bennington School and Workforce Alliance is a regional consortium of providers to more effectively address and align education, training, and employment needs.

\* **Provide opportunities for affordable housing to meet the needs of all residents of the region.**

Increasing real estate and building costs have made it difficult for many people to find suitable housing in their hometowns. An effort should be made to accommodate a variety of housing types (single-family, multi-family, manufactured housing, and rental housing), with special emphasis on meeting the needs of low and moderate-income residents and the growing elderly segment of the population. Plans should be developed to encourage the provision of adequate affordable housing in communities throughout the region, while considering the costs as well as the benefits of such housing to the towns. The BCRC "Housing Needs Analysis and Regional Compact" study provides a framework for implementation. The Regional Affordable Housing Corporation (RAHC) and Bennington-Rutland Opportunity Council (BROC) respectively provide assistance for affordable housing in lower income households.

\* **Encourage the efficient use of energy and the development of renewable energy resources.**

Energy planning should emphasize the use of diverse and reliable supplies of energy resources in an efficient and environmentally sound manner. Particular attention should be given to the development of renewable energy resources in the area as well as alternative sources such as natural gas. Land use, transportation, economic development, and housing policies and strategies should support the efficient use of energy resources.

\* **Strive for close coordination of policies in the Regional and municipal plans.**

Local and regional planning policies and programs will be more successful if they are mutually supportive. Town residents are also regional residents living and working throughout the area. Closer coordination also minimizes conflicts between towns or in regulatory proceedings. Foremost, good planning policy creates greater certainty in the outcome or vision.

In addition to towns, agencies and organizations will benefit the region by coordinating their plans and projects. BCRC is in a position to facilitate such coordination as an integral part of regional planning. It

is a function that needs the active participation of individual commissioners as well as the professional staff.

\* **Continually assess the effectiveness of regulatory provisions.**

BCRC must be alert to the currency and adequacy of regulatory provisions – from town ordinances to legislative proposals – to ensure readiness and balance in pace with development and change. This will entail direct assistance to towns, monitoring legislation, and presenting the Commission’s assessment in response to issues.

### III. HISTORY

The first town established in the region was Bennington, chartered in 1749 by Benning Wentworth, the governor of New Hampshire. Wentworth's purpose in chartering this first town on the western edge of what is today Vermont was to clearly establish New Hampshire's claims in the area, since New York was known to consider much of the land to be under its jurisdiction and control. The next towns to be chartered were Woodford and Stamford in 1753. Colonization of the area was not considered safe, however, until hostilities with the French and Indians ceased in 1760. The first settlers were led into the area in 1761 by Captain Samuel Robinson, who purchased a number of land grants in Bennington, Shaftsbury, and Pownal. Most of the remaining towns in the region were chartered in that same year.

These early residents quickly began shaping their new communities by clearing land for homes and crops, building grist mills and saw mills to provide needed products, and erecting important public buildings. A school and church were built in each town within a very few years of initial settlement. The region's natural resources provided for the basic needs of the settlers and supported the earliest industries. The most productive soils were cleared for agriculture, forests were tapped for lumber, potash, and maple products, and by 1790 a marble quarry was operating in Dorset and a paper mill in Bennington. Many of these sites still exist as archeological resources – subsurface remnants of industries, roads, public services, railroad/trolley rights-of-way still exist.

As new communities grew, roadways were laid out to connect them. One principal early road reached north from Bennington through Shaftsbury, Arlington, Sunderland, and Manchester, and another crossed Bennington west to east, connecting Troy, New York with population centers in eastern New England. Before long, regular stagecoach routes were established and private entrepreneurs built toll roads to facilitate travel. Naturally, systems of secondary roads evolved to serve local travel and to avoid the fees of the toll roads. Inns and taverns were sited along the roads to accommodate travelers.

All of this early growth and development did not occur in a particularly serene setting, however. A major dispute surfaced as early as 1765 when New York attempted to confiscate the land grants of many of the new inhabitants of the region. The "Green Mountain Boys," led by Ethan Allen and Seth Warner, were formed to resist these efforts by New York. A larger conflict, between the American colonies and England, soon intervened, however. The Green Mountain Boys achieved considerable fame during the Revolutionary War and fought at the Battle of Bennington in 1777, setting the stage for the crucial American victory at Saratoga. An independent State of Vermont was declared in 1777, with Thomas Chittenden of Arlington becoming its first governor in 1778. All of these events helped to defuse the land claims controversy with New York, which was finally resolved in 1790.

Communities in the region grew steadily over the next several decades, with notable concentrations of activity in Bennington and Manchester, both towns having been named shire towns in 1781. Numerous small industries sprang up around the region; first grist mills, saw mills, and blacksmith shops, then tanneries, shoemakers, paper mills, cloth manufacturers, iron works, the famous Norton and Fenton potteries, and a manufacturer of carpenter's squares ("Eagle Squares" established in 1823 in Shaftsbury). Many of the largest manufacturing concerns were located along waterways in Bennington and North Bennington. A favorable climate and protective tariffs gave a strong boost to sheep raising in Vermont, and this agricultural enterprise became very important in Bennington County in the first decades of the 19th century. Many hillsides were cleared of trees to provide pasture for the region's sheep, which by 1840 numbered in excess of 100,000. An economic depression in 1837 resulted in the closure of many

businesses and manufacturing concerns, and removal of the tariffs on wool products in the 1840s sent sheep raising into decline.

A number of factors in the mid-1800s exerted a strong influence on the future development of the region. Many farmers who had been raising sheep switched to dairying, and this has remained one of the region's dominant agricultural activities. A thriving cheese manufacturing industry developed as a result, with nine cheese factories operating in the region by 1880. The arrival of rail service in 1852 significantly impacted the region in several ways. Obviously, communication and transportation for residents of the region was vastly improved. The trains also brought in people from outside the region in ever-increasing numbers, thus leading to the establishment and growth of the tourism industry. The Equinox House was opened in Manchester by Frank Orvis in the 1850s to accommodate summer visitors, and many similar establishments followed in the ensuing years. The industrial revolution also followed the railroads into the region, with several old factories and mills being converted to new uses and a number of large new factories built; the "Holden Leonard" mill in Bennington was built during this period (in 1865). The marble industry flourished in the northern part of the county, with the greatest quantity of marble being quarried in Dorset (at one time or another, 28 quarries were worked in Dorset) and milled in Manchester.

Similar growth patterns persisted for the remainder of the 19th century, although a few significant events affected the local economy. The Civil War, while depleting the work force, did give a boost to local textile and machinery manufacturers. By the early twentieth century, textile manufacturing had become Bennington's dominant industrial activity. A nationwide economic depression slowed growth and caused some factories to close in the 1870s. The arrival of telephone service (1881) and electrical service (1887) had a profound effect on people's lives and the type and character of new development in the region.

Electricity spawned a proliferation of trolley car systems in and between villages. These trolley lines enhanced local passenger transportation and also served a number of camp resorts and other vacation spots, such as the inn/casino in Glastenbury. The arrival of the automobile at the turn of the century foretold the end of the trolley era, and passenger cars and tractor-trailer trucks would eventually lead to an enormous decline in the use and significance of rail service. Transportation improvements represented one of several causes that led to the consolidation of schools and school districts in the region (in 1869 there were 150 separate school districts in the county).

Throughout the region's modern history, forestry and related industries have been of great importance to the economy. Tree harvesting was first undertaken to clear land for settlements and cropland, to serve early construction needs, and for potash production. In the 1800s trees were also cleared for pasture land and to feed blast furnaces for iron foundries. The apex of logging activity in the county may have come around the turn of the 20th century when large lumber companies cleared vast acreages in the Green Mountains and sent the logs down rail lines and rivers to feed sawmills in cities and towns below. The Rich Lumber Company operated during this time in Manchester, logging in the Lye Brook and Bourn Pond areas east of town; the clustered houses of "Richville" stand as an interesting reminder of this time. Commercial logging continues to be an important economic activity, both in the Green Mountain National Forest, and on private tracts of forest land.

The first decades of the 20th century saw a number of important developments. An increasing reliance on automobiles led to a need to improve roads, and most of the main roads through the region were paved by 1940. The region's first hospital, Putnam Memorial, now known as the Southwestern Vermont Medical Center, was opened in 1918. A very severe flood in November of 1927 caused extensive damage to buildings, roads, and bridges, and washed out trolley and rail lines (many of which were never rebuilt).

The stock market crash of 1929 ushered in a period of hard times for the local economy. Particularly hard hit was the local textile industry; the failure of the Holden Leonard mill in 1938 idled 800 local employees, fully one-fourth of Bennington's work force at the time. Several events during this time, however, did suggest brighter years ahead. Bennington College opened in 1932. The Southern Vermont Artists was incorporated by artists in Manchester and Dorset. And in Woodford and Peru, the ski industry took a giant step forward with the addition of mechanized lifts in 1939.

The post-World War II era has been a time of relatively rapid changes and growth in the region. A number of industries serving new technologies (e.g., automobile parts, batteries, specialized fabrics, plastics, computer supplies) have replaced outmoded manufacturing concerns in Bennington, Arlington, and Manchester. Some traditional industries, however, are still very important to the region's economy (e.g., dairy products, lumber, and wooden furniture). With the region now very accessible to the northeast's major population centers, the vacation and tourism industry has continued to grow in importance. Summer residents, outdoor recreation enthusiasts of all kinds (including the many skiers who visit the Bromley, Magic, and Stratton ski areas), "leaf-peepers," and shoppers all contribute to the region's economic health. The long-planned limited access highway running from Bennington to Dorset (Route 7) was completed in 1990, and provides convenient non-stop travel the length of the region for residents and visitors alike.

Recent years have also seen a keen interest throughout the region and state in the conservation of natural resources and active planning for the future. The growth of the Green Mountain National Forest, establishment of state parks at Lake Shaftsbury, Emerald Lake, and the Adams Reservoir, and creation of the Merck Forest and Farmland Center are clear physical manifestations of this concern. Municipal plans and ordinances, and a number of state laws such as Act 250 and Act 200, have been enacted to encourage economically advantageous growth while protecting the open spaces and natural environment that have been so important to the region's history.

While the Bennington region has certainly seen profound changes, it is evident that the past has shaped the present and that the region will continue to benefit from its rich history. Additional information on the region's history can be found in the book: [The Shires of Bennington](#), by Tyler Resch, the source of the information presented in this chapter.

## **IV. PHYSIOGRAPHY**

### **General Description**

The scenic landscapes of the Bennington region derive from the area's distinctive physiography. These basic characteristics of the land – topography, bedrock and glacial geology, soils, and waterways – have also strongly influenced the type, location, and intensity of land use within the region. The majority of the Bennington region falls within three physiographic zones: the Green Mountains on the east, the Taconic Range on the west, and the Vermont Valley lying between these two upland areas.

The ridgeline of the Green Mountains tends generally northward through the region, rising abruptly 1500 to 2000 feet from the valley to the west. The Green Mountains form a divide between the Connecticut River and the Hudson River/Lake Champlain watersheds; most of the drainage in the Bennington region is directed to the west. The streams that drain the western flank of the Green Mountains originate in high mountain springs and ponds, and cascade through steep-walled glens and hollows to the broad valley below. In many places the pre-Cambrian crystalline bedrock of the mountains is exposed, particularly in areas of steep slope and at high elevations. Many peaks along the ridge rise above 3000 feet in elevation, the loftiest of them being Glastenbury Mountain at 3764 feet.

Facing the Green Mountains across the Vermont Valley is the Taconic Range, the dominant topographic feature on the western side of the region. The Taconics are broken into a southern and northern portion by the broad valley of the Walloomsac River. The southern portion begins at Mount Anthony (elevation 2345 feet) in Bennington and continues southward through Pownal, while the northern portion originates at West Mountain in Shaftsbury and continues through Arlington, Sandgate, Manchester, Rupert, and Dorset. Topographic relief in this region is considerable as the valleys between the mountains (several of which exceed 3000 feet in elevation) lie at relatively low elevations. The highest point in the Bennington region, the summit of Mount Equinox at 3816 feet, is in the Taconic Range. These mountains are underlain by phyllites and schists, with economically important marbles and slates found at lower elevations and in the valleys.

The Vermont Valley, a narrow southern extension of the Champlain Valley, runs down the center of the Bennington region from Dorset to Pownal. The valley is approximately three miles wide in the south, but narrows to less than one mile in width near North Dorset. Elevations in the valley range from 600 feet to somewhat over 1000 feet. The Walloomsac River, the Batten Kill, and some of their tributary streams lie on the floor of the valley. These two rivers, along with the Mettawee River and the West Branch of the Batten Kill, also follow secondary valleys that branch westward from the main valley. The valley is underlain by carbonate rocks, with a number of small hills within the valley itself supported by sandstone beds. During the Pleistocene glaciation, the Vermont Valley was the site of a large lake that was formed when morainal dams blocked drainage to the south and the retreating ice prevented northward drainage. Large amounts of coarse sediments were poured into the lake by numerous streams. Extensive sand and gravel deposits are found where the streams entered the lake on the lower flanks of the mountains.

Areas underlain by deposits of coarse-grained stratified glacial drift and stream gravel tend to contain significant quantities of ground water. Such deposits occur in valley areas along parts of the Batten Kill, Warm Brook, Paran Creek, Walloomsac River, and South Stream (Figure 4-1). The Hoosic River valley in Pownal and Stamford also contains sufficient thicknesses of water-bearing gravel to produce large quantities of water.

## Development Suitability

Valley lands and the lower slopes of the mountains and hills tend to be best suited for development. With increasing altitude, average temperatures drop, precipitation amounts increase, soils become very shallow and poorly drained, and natural plant and animal communities become more susceptible to environmental disturbances. Lands within the region that lie at elevations above 2500 feet are particularly fragile and warrant special protection. While all of the towns within the region contain some lands at high elevations, towns that lie largely within the Green Mountain physiographic region tend to have the highest average elevations and the greatest acreages above 2500 feet (Figure 4-2, Table 4-1). Overall, approximately 44,720 acres of land, or 12.1% of the Bennington region, occur above 2500 feet.

**Table 4-1**

Total acreages of land with elevations above 2500 feet and slopes in excess of 20%  
Because of severe environmental constraints, development in these areas is generally inappropriate.

TOWN	TOTAL ACREAGE	ACRES ABOVE 2500 FEET	ACRES WITH SLOPES OVER 20%
Arlington	26,678	1,120	15,789
Bennington	26,713	0	5,019
Dorset	29,463	2,880	14,228
Glastenbury	28,800	13,120	10,554
Landgrove	5,696	0	336
Manchester	26,527	3,040	8,516
Peru	25,065	5,440	6,014
Pownal	29,955	200	11,489
Rupert	28,608	500	14,228
Sandgate	27,039	500	19,021
Shaftsbury	26,840	0	5,768
Stamford	26,084	5,280	7,952
Sunderland	29,574	9,600	8,830
Woodford	30,332	3,040	6,842

The slope, or gradient, of the land is another important indicator of an area's suitability for development. Where prevailing slopes do not exceed 10%, topographic limitations to development tend to be minor. Moderate limitations are found when slopes fall in the 10-15% range. In areas where slopes exceed 15%, very careful planning and design are required to overcome problems caused by thin soils, erosion hazards, and difficult road construction. Grades in excess of 20% pose particularly severe problems, and development in these areas should be avoided. The mountainous terrain of the Bennington region includes large areas where slopes pose a severe limitation to development. In all, 36.5% of the land area within the region is characterized by gradients in excess of 20%, with notable concentrations of very steep land found along the western slope of the Green Mountains and in the Taconic Range (Figure 4-2, Table 4-1).

Development patterns in the region and land use planning are also very dependent upon soil conditions. Early settlers cleared land where soils were most suitable for farming and for road and building construction. Similarly, future growth should be directed to areas where the soils are most capable of supporting that development, and soils with excellent agricultural potential should be reserved for that purpose. Siting development on soils that are inadequate because they are too shallow, wet, or unstable can cause severe problems: roads will be difficult and costly to maintain, septic systems can fail and contaminate water supplies, building foundations may be damaged, erosion will result in soil loss and degrade aquatic environments, and so on. Conversely, when the type and intensity of development is consistent with soil conditions, communities can grow and prosper while minimizing environmental damage and the need for inordinate expenditures of public funds. Of course, an understanding of soil conditions also enables farmers, foresters, and others to determine how best to manage their land.

A review of soil maps for Bennington County towns provides an overview of soil conditions in the region. Predictably, soils that are best suited to development and agriculture are found at relatively low elevations and in river valleys, while soils in mountainous areas are appropriate for forest management, but not for intensive development or farming. Detailed soil surveys are available from the United States Soil Conservation Service in Bennington, and should be used in local land use planning. Integration of this soil information into the geographic information system (GIS) database being developed at the BCRC would greatly facilitate its use by town planners.

### **Policies and Actions**

1. Intensive development should be directed to areas where physical conditions such as elevation, slope, and soils are most capable of supporting such development. In areas where soils are particularly well suited to farming, development planning should include provisions for preserving the agricultural viability of the land.
2. Growth should be restricted in areas of high elevation, steep slopes, or poor soils where environmental damage is likely to occur as a result of development. Special attention must be given to the need to prevent soil erosion, contamination of surface and ground water, and degradation of natural ecological communities in these areas.
3. The utilization of geographical information in land use planning should be improved at both the regional and local levels; this effort will be best accomplished by incorporation of such data into a geographic information system. Digitization of detailed soil data for the Bennington region should be a GIS priority.

## **V. DEMOGRAPHICS AND ECONOMIC DEVELOPMENT**

### **POPULATION AND HOUSEHOLDS**

The Bennington Region includes the Towns of Arlington, Bennington, Dorset, Glastenbury, Landgrove, Manchester, Peru, Pownal, Rupert, Sandgate, Shaftsbury, Stamford, Sunderland, and Woodford. It should be noted that these towns are in the BCRC's planning region, which differs slightly from Bennington County proper. Bennington County includes the towns mentioned above, as well as the Towns of Readsboro, Searsburg, and Winhall. Throughout this plan, the distinction will be made between figures representing the Region versus figures representing the County. In most cases, data has been compiled for the Region, but there are a few instances where data is only available at the County level, and will be so noted.

#### **5.1 Population Growth**

The population of the Bennington region continued to grow between 1990 and 2000, although at a lesser rate than during the previous two decades. According to the U.S. Census, the region's population in 2000 was 35,387. Projections generated by the Vermont Center for Rural Studies indicate that the region's population was 35,352 in 2005. Straight-line projections by the BCRC indicate a possible rate of growth of 7.9%, which indicates that by year 2010 as many as 38,172 people may be residents of the Bennington region.

With the exception of Bennington and Sunderland, every town in the region experienced some degree of population growth between 1990 and 2000. The Towns of Manchester, Peru, Sandgate, Shaftsbury, and Woodford experienced growth rates in excess of ten percent. The majority of towns in the region are expected to continue to gain population during the period from 2000 to 2010.

#### **5.2 Sex, Age, Race**

The ratio of males to females in the Bennington region's population remained constant, with the Census reporting 48% male and 52% female. The number of those 0-19 years of age increased in the 1990s by 7.6% to 9,338 in the region. Population in the age category 20-64 declined by 3.5%, while those age 65 and older increased by 14.5% from 1990 to 2000. Racially, Bennington County continues to be quite homogeneous: approximately 97.7% of Bennington County residents are white. Nearly half of the County's minority population resides in the Town of Bennington.

#### **5.3 Household Size and Growth**

A significant trend in the last three decades has been the decline in the size of the average household. There are a variety of reasons for this, such as increased divorces, postponement of marriage, more single parent families, more persons living alone, life expectancy, cost of living, and life style. In 2000, household size (owner occupied) declined to 2.45 persons and the average family size declined to 2.87 persons in the region.

Due to the presence of numerous second homes and the area's strong retail shopping and tourism economy, the amount of housing development in the region is quite large relative to the size of the year-round population. The total number of housing units in the region in 2000 totaled 17,133, with 14,995

year round units and 2,138 seasonal units (see Table 5-3). From 1990 to 2000, the region experienced an increase in housing units from 16,446 to 17,133 (4.2%), while the total population in the region only increased by 2.5%. Total households increased 8.8%, while seasonal use housing units decreased by 16% from 1990 to 2000; a plausible explanation may be that seasonal housing units are now being occupied on a year-round basis by the increasing number of households in the region.

*Table 5-1*

TOTAL POPULATION 1970 – 2000  
BENNINGTON REGION AND COUNTY BY TOWN, AND STATE

				1970-1980	1980-1990		1990-2000
<u>Town</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>% Change</u>	<u>% Change</u>	<u>2000</u>	<u>% Change</u>
Arlington	1934	2184	2299	12.9	5.3	2397	4.3
Bennington	14586	15815	16451	8.4	4.0	15737	-4.3
Dorset	1293	1648	1918	27.5	16.4	2036	6.1
Glastenbury	0	3	7	0.0	133.3	16	128.6
Landgrove	104	121	134	16.4	10.7	144	7.5
Manchester	2919	3261	3622	11.7	11.1	4180	15.4
Peru	243	312	324	28.4	3.8	416	28.4
Pownal	2441	3269	3485	33.9	6.6	3560	2.1
Rupert	582	605	654	4.0	8.1	704	7.6
Sandgate	127	234	278	84.3	18.8	353	27.0
Shaftsbury	2411	3001	3368	24.5	12.2	3767	11.8
Stamford	752	773	773	2.8	0.0	813	5.2
Sunderland	601	768	872	27.8	13.5	850	-2.5
Woodford	286	314	331	9.8	5.4	414	25.1
Bennington Region	28279	32308	34516	14.3	6.8	35,387	2.5
Readsboro	638	638	762	0.0	19.4	809	6.1
Searsburg	84	72	85	-14.3	18.1	96	12.9
Winhall	281	327	482	16.4	47.4	702	45.6
Bennington County	29282	33345	35845	13.9	7.5	36,994	3.2
State of Vermont	444330	511456	562758	15.1	10.0	608,827	8.2
Sources: 1970, 1980, 1990, and 2000 U.S. Census of Population and Housing							

**Table 5-2**

**POPULATION BY AGE GROUPS 1990-2000  
BENNINGTON REGION BY TOWN**

<u>TOWN</u>	<u>AGE 0-19</u>			<u>AGE 20-64</u>			<u>AGE 65+</u>		
	<u>2000</u>	<u>1990</u>	<u>% CHNG 1990-2000</u>	<u>2000</u>	<u>1990</u>	<u>% CHNG 1990-2000</u>	<u>2000</u>	<u>1990</u>	<u>% CHNG 1990-2000</u>
Arlington	610	601	1.5	1392	1348	3.3	395	350	12.8
Bennington	4255	4164	2.2	8686	9707	-11.7	2796	2580	8.4
Dorset	484	418	15.8	1154	1149	0.4	398	351	13.4
Glastenbury	4	1	300.0	12	6	100.0	0	0	0.0
Landgrove	36	29	24.1	89	79	12.6	19	26	-36.8
Manchester	1017	807	26.0	2365	2185	8.2	798	630	26.6
Peru	118	62	90.3	236	207	14.0	62	55	12.7
Pownal	983	956	28.2	2010	2186	-8.7	396	343	15.4
Rupert	170	154	10.4	377	389	-3.2	157	111	41.4
Sandgate	82	63	30.1	210	165	27.3	61	50	22.0
Shaftsbury	1040	932	11.6	2233	2027	10.2	494	409	20.8
Stamford	222	189	17.5	486	495	-1.8	105	89	18.0
Sunderland	215	208	3.4	480	553	-15.2	155	111	39.6
Woodford	102	94	8.5	268	209	28.2	44	28	57.1
<b>Bennington Region</b>	<b>9,338</b>	<b>8,678</b>	<b>7.6</b>	<b>19,998</b>	<b>20,705</b>	<b>-3.5</b>	<b>5,880</b>	<b>5,133</b>	<b>14.5</b>

SOURCE: U.S. Census 1990, 2000

**Table 5-3**  
HOUSEHOLDS AND HOUSING UNITS 1990-2000

<b>Town</b>	<b>1990 Total Households</b>	<b>1990 Total Housing Units</b>	<b>1990 Seasonal Housing Units</b>	<b>2000 Total Households</b>	<b>2000 Total Housing Units</b>	<b>2000 Seasonal Housing Units</b>
Arlington	909	1,136	168	1,009	1,200	138
Bennington	5,983	6,392	65	6,162	6,574	90
Dorset	795	1,209	340	856	1,246	341
Glastenbury	3	5	-	6	11	5
Landgrove	58	130	65	64	153	83
Manchester	1,510	2,275	614	1,819	2,456	536
Peru	140	637	481	157	445	276
Pownal	1,281	1,457	69	1,373	1,563	55
Rupert	263	442	150	295	449	134
Sandgate	114	262	128	149	268	108
Shaftsbury	1,237	1,429	106	1,450	1,574	66
Stamford	287	347	53	313	387	57
Sunderland	327	458	111	350	473	99
Woodford	121	267	130	172	334	150
Bennington Region	13,028	16,446	2,480	14,175	17,133	2,138

Source: US Census, 1990, 2000

## ECONOMIC DEVELOPMENT

### 5.4 Overview

Three industries historically have been of great importance to the economic prosperity of Bennington County, and similarly, the Bennington region: manufacturing, tourism, and agriculture and forestry. While these activities are still important elements in the regional economy, the past several decades have seen a steady decline in the prominence of agriculture and forestry and a shift to different manufacturing segments. In addition, retail trade and service businesses (those related to tourism as well as those that are not directly tied to tourism) have become increasingly important in recent years. According to the 2000 Census, 16.9% of the workforce was employed in manufacturing, 14.6% in retail trade, 23.7% in education, health, and social services, 7.5% in construction, and 10.6% in arts, entertainment, recreation, accommodation, and food service industries. The information industry comprises 2.7% of the workforce. 32.4% of the workforce maintains management, professional, or related occupations. 11.3% of the workforce is classified as “self-employed workers in own not incorporated business”. During periods of economic prosperity, the region has experienced considerable growth in contract construction business. The U.S. Census County Business Patterns for 2004 provides a general picture of the composition of the regional economy (Appendix B-4b).

In the future, the region will need to support traditionally important industries while responding to changes in the regional and national economies. The relative emphasis on each of the core industries will have to change over time, and changes and innovations within each industry will be necessary as well. Large employers will continue to provide a strong base for the economy, but a variety of small businesses will be equally important in providing diversity and stability. Also important will be the ability of the region to provide the critical infrastructure and amenities that will support all of those businesses.

The next sections include information that presents a picture of current economic conditions in the region. They are followed by policies and actions intended to promote effective economic development and prosperity in the future.

### 5.5 Income

Household and family incomes in the region increased steadily through the 1990s to \$39,926 and \$46,565, respectively by 2000. While significant, these gains fell short of the earning increases experienced statewide. There also is substantial variation in income levels among towns in the region.

As of 2000, there were 3,486 people living below the poverty level in the region – a decrease of 7.5% since 1990. Of these, 33% were related children under age 18 and 12% were over age 65. Some towns, such as Arlington, have seen decreases in the number of families living in poverty. There are several possible reasons for such decreases. Many are positive: more and better jobs in the community and access to jobs in nearby communities, for example. Other possible causes are less so: increasing real estate prices and living expenses driving low-income families to other towns/areas. In addition, some residents must work at multiple jobs, often part-time service positions with few benefits, to earn their way out of poverty.

A central objective of economic development activities in the region should be to ensure that residents of the region have access to good jobs that pay a livable wage. The result will be a stronger regional

economy with more money available for reinvestment in local businesses. Public policy and business decisions should reflect this concern.

## **5.6 Employment**

UI Covered Employment increased from 17,183 in 1995 to 17,956 in 2005 representing an average annual increase of .5% (Vt. Dept. of Labor). As of 2000, the total employed civilian population for Bennington County was 18,680 (U.S. Census), compared to 16,995 in 1990. There were 902 unemployed civilians in 2000, which is a 53% decrease from the 1,383 unemployed civilians in 1990. The difference between the increase in the employed population over the past decade (9.9%) compared to the increase in total population (3.2%) can be attributed to possible factors such as the creation of new jobs or the decrease in unemployed worker status. The primary employment centers in the region are in the towns of Bennington and Manchester, which together contain 80% of the region's jobs.

Employment projections from different sources indicate that modest growth for the area can be expected to continue. Employment in the county is estimated to grow at an annual rate of 0.63% through 2012 (BCRC Regional Transportation Plan, 1995). The BCIC's *Economic Development Goal Setting Study*, prepared by Policom Corporation in 1999, projects employment growth at an average annual increase of 2.4% through the year 2010 for Bennington County. A slight but steady increase in population for the region is projected providing both employees and an increased demand for services. Employment growth is not expected to be as dramatic as that experienced during the 1980s, however.

Unemployment rates had fallen to under 4% region-wide during the strong economic years of the mid to late 1990s, but have risen with the recession that began in 2001. More recently, the annual average unemployment rate in 2005 is 3.6% which is comparable to Vermont at 3.5%. A strong regional economy and healthy local communities are built on full employment. A diverse economy, with jobs in a variety of sectors located throughout the region's employment centers, will facilitate attainment of full employment. A basic requirement is a strong commitment to providing educational and training opportunities for residents that will allow them to fill those jobs.

## **5.7 Employment by Occupation**

The numbers of area residents employed in different occupations has changed slightly between 1990 and 2000. These changes reflect the continuing trend toward the managerial and retail sectors. During the 1990s, employment in managerial and professional specialty occupations increased 39%, and service occupations increased 22%. Sales, technical, and administrative support occupations decreased by 11% (U.S. Census). Farming, forestry, and fishing occupations decreased significantly at a rate of 326% during the 1990s. Traditional manufacturing jobs (production, repair, machine operating, and transportation) increased 7% during this same period. Job growth in all of these areas is encouraging because it points to a healthy diversity in the regional economy as well as strength in traditional sectors that are based on local resources.

## **5.8 Manufacturing**

The Bennington region has a long history as a manufacturing center and industries in that center continue to power much of the local economy. Among its major employers are manufacturers of electrical equipment, transportation equipment, fabricated metals, apparel, printing, and lumber products. The Manchester area supports a number of specialty manufacturing operations in its small industrial parks,

while plastics manufacturers/assemblers are major components of the economic fabric of Arlington and the surrounding towns in the center of the region. A number of smaller manufacturers, many producing value-added products manufactured from local resources, are found in rural towns throughout the region.

It is important to ensure that the infrastructure, facility, and service needs of existing and potential future manufacturing businesses are provided. For the most part, the necessary physical resources should be provided at planned industrial sites in or near urban or village centers. Critical infrastructure components include:

- Transportation facilities (highways – including Route 279, rail, and air)
- Modern telecommunication facilities
- Water supply and wastewater disposal facilities
- Adequate and reasonably priced electricity.

Again, it is vital for a healthy manufacturing base to have a trained and educated workforce. That workforce must also have access to affordable housing within the region.

Municipalities need to periodically evaluate the adequacy of existing and planned industrial sites and determine where and how to accommodate new manufacturing development. The Bennington County Industrial Corporation, the Bennington and Manchester Chambers of Commerce, the Regional Marketing Organization, Better Bennington Corporation, and other local and state organizations are available to recruit new businesses, promote the region, and provide assistance to new businesses seeking to locate in the region and to existing area businesses considering growth.

Not to be overlooked when considering assets needed to encourage future growth in the manufacturing sector, or in any sector of the local economy, is the quality of life provided in the region. Southwestern Vermont is fortunate to have a beautiful natural environment, attractive small towns, and numerous recreational and cultural opportunities. With today's high tech and telecommunications based industries, such amenities are becoming increasingly important and every opportunity should be taken to provide and promote those resources within the region.

## **5.9 Retail Trade**

Retail businesses are vital to area residents as well as to tourists and vacationers. The Town of Bennington attracts shoppers from Bennington County, parts of northern Massachusetts, and eastern New York State. Bennington's downtown shopping district includes a growing number of specialty stores. Manchester serves the northern section of the region and nearby towns in New York and Rutland County. Manchester's specialty shopping district is a very popular destination for travelers from throughout the Northeast.

According to the most recent U.S. Census, the total number of retail trade establishments in 2004 in the county was 347 – a decrease of 2.3% over the past five years. The five-year period preceding 2004 saw significant changes in the number of establishments; 358 in 1999, 373 in 2000, 369 in 2001, 366 in 2002, and 354 in 2003. Changes in the retail trade sector of the economy has been seen in Bennington where large new stores have located along Northside Drive at the same time that more specialty stores have started to appear throughout the traditional downtown area. While Bennington's retail market serves primarily area residents, it is likely that the increasingly attractive downtown district will draw more and more tourists. Manchester continues to support a thriving retail industry with a mix of specialty shops

and so-called factory outlet stores. New retail growth in Bennington, Manchester, and in villages throughout the region should occur in a location and manner that will support existing and planned growth centers while providing jobs and needed goods.

Retailers have many of the same infrastructure and labor needs that are required by manufacturers. It also is important to provide attractive and comfortable downtown districts, ensure that traffic congestion is managed, and that adequate parking and pedestrian facilities are provided. Particular emphasis should be placed on downtown development when planning for new business development.

### **5.10 Tourism and Other Services**

Between 1997 and 2002, Bennington County experienced a 23.6% increase in receipts by retail trade establishments (U.S. Economic Census). Although lower than the growth statewide in this sector (29.2%), it still shows healthy growth in tourism and other service activities that are so important to the region. Here too, workforce and infrastructure needs are critical to the success of these businesses.

Tourism in particular has always been very important to the region's economy. Lodging establishments within the county can accommodate nearly 6,000 people; there are several thousand seasonal residents; and the area is within easy driving distance of several million people from New York City to the Albany, NY metropolitan area. To sustain this important economic engine, the region's attractions need to be promoted to regional, national, and international markets. New opportunities such as the proposed Amtrak service to the region and the Welcome Center along Route 279 should be actively pursued. Designation of Route 9 as a scenic byway and inclusion of the Bennington Region in the Champlain Valley National Historic Corridor will strengthen the area's attraction and economy.

The contribution of health and educational services to the area's economy warrants specific emphasis. According to the 2004 U.S. Census County Business Patterns, health services included 159 establishments and an annual payroll of \$94.3 million. Educational services included 26 establishments and an annual payroll of \$25.6 million.

### **5.11 Agriculture and Forestry**

Productive farmland is restricted to a few fertile valleys in the region, so agriculture does not play as prominent a role in the local economy here as it does elsewhere in the state. The number of farms in the county did increase by 1.25% between 1987 and 1997, while the number of acres of cropland declined nearly 1.5%. Over this period the value of agricultural products sold in the county increased by 20%. In 1997, \$4.7 million worth of dairy products were sold in the county. A market sector of increasing strength is nursery and greenhouse products, where almost \$1 million worth of sales took place for the same year (up over 55% since 1992). It is likely that farmers and other agricultural entrepreneurs are seeking out specialty products and markets to maximize the return from available resources.

Forests cover approximately 266,500 acres, or 72% of Bennington County's total land area. Well managed forests, both privately held and the Green Mountain National Forest, provide lumber and wood for sawmills, paper mills, and manufacturers, both locally and in nearby regions. In 1998 Bennington County sawmills used over 13,591 million board feet for sawlog and veneer log mill production. Properly managed forests also provide important wildlife habitat and the vast open lands that are among the region's most important aesthetic and recreational resources.

Agriculture and forestry are key to the region's economic prosperity, natural heritage, aesthetic appeal, and quality of life. Public policies and programs that support these industries (e.g., favorable tax treatment, funding for conservation programs) are important, as are land use regulations that discourage fragmentation of productive farm and forest lands. Effective land conservation initiatives that encourage continued economic use of these lands (Vermont Land Trust, Use Value Program) should be fully funded and supported.

### **5.12 Information and Technology**

New technologies, particularly in communications, contribute to conditions for locating businesses in Vermont. As technology and supporting infrastructure is expanded and improved, opportunities for locating and expanding businesses are likely to follow. Some of the existing businesses that fall into this category include specialty publishing, graphic design, software engineering, internet/website design, and microtechnology manufacturing. The Bennington Region has experienced growth in both the large and small business sectors.

An important new business in this sector is the Bennington Microtechnology Center (BMC) located on Route 67A in North Bennington. The BMC specializes in the development, demonstration, and prototyping of novel processes for packaging, assembly, testing, and cost-effective pilot production of integrated Microsystems. Such businesses have the added benefit of attracting supporting businesses to the region.

Contributing to the success of technology-driven businesses is a skilled workforce, an adequate supply of conveniently located buildings, and state of the art technology. Moreover, growth in this sector of the economy can contribute to the area's wealth, wages, and diversity of the economic base.

A priority policy area in the Vermont Plan for a Decade of Progress, 2002, is an exceptional telecommunications network. As stated in the plan, "the new economy is one that is knowledge-based and technology driven – brings with it highly paid, highly skilled jobs with minimal environmental impact, consistent with Vermont's values and traditions. Telecommunications infrastructure is the gateway to the new economy." Vermont businesses have identified communication infrastructure as one of the key ingredients for future growth and opportunity. The Vermont Broadband Council, Vermont Telecommunication Plan, and recent supporting legislation are aggressively pursuing the deployment of broadband infrastructure to all parts of the State by 2010. Local and regional planning policies need to support this initiative consistent with sound land use policies.

### **5.13 Summary**

A strong and diversified economy is critical to the Bennington County region. Those industries that traditionally have been important to the region – agriculture/forestry, manufacturing, tourism/services, and construction – all continue to contribute to the region's economic well being. The relative strength of each industry will vary depending on economic conditions, and the regional economy should be flexible enough to respond to those changing conditions. Moreover, innovations and business development within each sector will be critical in ensuring that area businesses react to new market demands and opportunities. In this context, large companies provide a strong economic base and steady employment, while small businesses encourage innovation, diversity, and stability. Thus, a range of business types and sizes within each industry should be maintained and encouraged. Some of the key economic drivers of the region's economy identified in an Economic Development Plan (2004) include: materials-related

light manufacturing, specialty electronics and metal products, natural resource based manufacturing, specialty food products, specialty publishing and printing, education services, value added professional-scientific-technical services, and resort-tourism-recreation enterprises. Cultural and art enterprises are having a significantly greater role in the region's economy.

The public sector can provide many of the assets needed to promote appropriate economic development. Infrastructure needs must be met. Area highways must be maintained and improved to accommodate truck traffic and to enable easy access by commuters and visitors. Route 279 must be completed as expeditiously as possible, and regional and state officials should work cooperatively with other regions and states to ensure that connections to the interstate highway system are improved. Continued support should be given to investment in rail and airport facilities (W.H. Morse State Airport) to ensure efficiency and optimum use for demonstrated and projected need. The telecommunication systems in the region should be state-of-the-art and reach all village and urban centers. Adequate water and sewer capacity should exist to support a variety of development in areas planned for intensive growth. Electrical power should be available at prices competitive with other regions and states. Commercial and industrial sites should be identified and marketed to appropriate businesses, and municipalities should carefully plan for the siting of new business development.

Every effort should be made to ensure that the region's workforce is adequate and attractive to existing and prospective employers. Investment in educational and vocational programs is critical. Such programs should consider the demands of today's economy and the needs of area businesses while providing every student with a sound basic education. Housing must be available within the region at prices affordable to people who work here. Just as important, workers should be paid wages adequate to support a good quality of life.

The quality of life available in the Bennington region is valued by all of the area's residents and is a critical factor in attracting new business development. The region's natural resources, traditional landscape, and recreational and cultural opportunities must be protected and enhanced whenever possible. Those features that contribute to this quality should be actively promoted to encourage tourism and to attract new business development. Promotion should occur through existing approaches, via the internet, and by taking advantage of new opportunities that present themselves, such as the proposed Welcome Center along Route 279 and the unique three covered bridge river walk proposal.

A number of organizations need to work actively and cooperatively to achieve effective economic development. Those organizations include:

- Bennington County Industrial Corporation
- Bennington County Regional Commission
- Regional Affordable Housing Corporation
- Municipal Governments
- Northshire-Southshire Affiliation Initiative
- Better Bennington Corporation
- Bennington County School and Workforce Partnership
- Bennington, Manchester and the Mountains, and Dorset Chambers of Commerce
- Town Economic Development Committees
- State Agencies and the Legislature.

Each of these organizations has a particular interest and unique assets to contribute to the regional economic development effort. It is crucial, therefore, that these organizations communicate with each other and work collaboratively toward common goals. The USDA Rural Development Administration (Lovan and Reid, April 1993) has identified specific techniques that will help such organizations achieve their objectives:

- Engage and enable others through participatory and consensus-building activities, rather than directing or announcing;
- Activity to be mission and vision driven, rather than program driven;
- Create opportunities rather than just reacting in prescribed ways;
- Act entrepreneurial with flexible authority to achieve mission through innovating and experimenting;
- Serve citizens and customers rather than special interests as clients;
- Measure success by results, not inputs applied. Achieve accountability through policy makers, front-line managers, and customers;
- Invest resources for long-term benefits rather than for short-term payoffs;
- Form horizontal alliances and collaborate with stakeholders to achieve common goals.

#### **5.14 Policies and Actions**

The goal of economic development in the Bennington region is to maintain a strong and diverse economy that supports full employment of area residents in jobs that are rewarding and which provide wages adequate for a good quality of life.

1. Update and expand the short and long version Bennington County economic data profiles for broad distribution.
2. Maintain the commercial and industrial sites database and ensure that it is effectively used in marketing particular properties (Appendix B-7).
3. Identify business clusters that contribute significantly to the area's economy and provide strong support for those businesses deemed especially critical to the region: manufacturing, agriculture and forestry, information technology, health care, education, and tourism.
4. Direct investment to critical support infrastructure and services, including transportation, schools, technical centers, water and sewer, telecommunications, affordable housing, daycare, and health care.
5. Support education and workforce development initiatives.
6. Support new business development in existing or planned growth centers.
7. Take full advantage of sources of financing such as local and regional revolving loan funds, VEPC, VEDA, and other state and federal programs.
8. Expand marketing initiatives to include new approaches and opportunities such as the Internet and Welcome Center.
9. Develop organizational partnerships to support efforts in the delivery of programs and initiatives.
10. Provide assistance with development/regulatory needs: permits, contacts, site/building information, packaging marketing information and data products.
11. Support and invest in revitalization of downtowns and village centers, planned growth centers, and restoration and reuse of underutilized properties and "brownfields."
12. Take an active role in promoting beneficial legislation supporting economic policies and programs.

13. Foster and support special initiatives: Route 9 Scenic Byway Designation, The Museums of Bennington, improved rail service, Route 279, Welcome Center, public transportation services.
14. Tax policies, economic development grants, land-use regulations, and other programs may be used to attract new businesses to a community. Emphasis should be given to opportunities for locating desirable new businesses in economically disadvantaged areas.
15. Communities should identify the type of economic development that is desired and can be supported. Consideration should be given to the labor market, natural and financial resources, available infrastructure and services, and required public investments. Towns may wish to include performance standards in the zoning bylaws to ensure that new development is of a high quality.
16. Support businesses that utilize local natural resources and encourage innovative agricultural and forestry practices and ventures.
17. Local, regional, and state organizations should closely coordinate efforts to encourage and support development of diverse small businesses.
18. The State should augment local resources to promote the region's many attractions to regional and national tourism markets.
19. Maintain and enhance cultural and recreational opportunities throughout the region.
20. Policies and regulations affecting development should be continually evaluated for their effectiveness including development in balance with planning aims for open space, natural resources, and the environment.

## VI. NATURAL RESOURCES

The many natural resources found within the Bennington region represent some of the area's greatest assets. Most of these resources are evident throughout the region: valleys with their low rolling hills and agricultural fields against the forested backdrop of the Green and Taconic Mountains; the region's four main rivers and their pristine tributaries; abundant fish and wildlife; various earth and mineral resources; and clear air and clean water. All of these resources contribute to the quality of life that is enjoyed in the region by providing recreational opportunities, serving aesthetic values, protecting environmental quality and public health, and by supporting a host of economic opportunities. Wise resource management and planning is necessary to ensure that maximum benefits are realized both now and into the future. This chapter will identify and briefly describe the region's natural resources, and will outline strategies that should serve to maintain their values. The primary natural resources addressed are:

- Water Resources,
- Air Quality,
- Agricultural and Forest Lands,
- Earth Resources,
- Wildlife Resources,
- Unique Natural Features, and
- Scenic and Recreational Resources.

It has been and will continue to be the fundamental goal of the BCRC to sustain and enhance the integrity of the region's diverse natural resources. Toward achieving this goal, it is the general policy of the BCRC to develop and engage in practices that conserve natural resources and to insure that future land uses are not unduly detrimental to the environment.

### 6.1 Water Resources

The quality of surface and ground water is essential to the well being of the area's residents and visitors as well as the region's economy. The region's high quality surface and ground water is a valuable resource providing water for drinking and irrigation, recreational opportunities, scenic enjoyment, and habitat for many wildlife species. While costly remedial solutions may be utilized to improve water quality, contamination prevention will always need attention since today's good quality may be subject to future degradation.

#### **Water Quality Standards, Classifications and Typing:**

Improved water resource management and cooperation among towns, state, and federal agencies will be required to meet competing uses of the region's rivers, lakes and ponds. The Basin Planning process outlined in the 2000 Vermont Water Quality Standards (WQS) sets forth a process for developing management plans for the waters of the state. The WQS are rules that have been established to achieve the goals of the Vermont Water Quality Policy as well as the objectives of the Federal Clean Water Act. The WQS, which are periodically updated, contain numeric and narrative criteria that describe the classification and water management typing of all rivers, streams, lakes and ponds. Water quality types (A or B) and classifications (A1, A2, B1, B2 and B3), as administered by the State Department of Environmental Conservation, established water quality goals for each body of water in the state. These goals are expressed as "beneficial values and uses" or "designated uses" that are to be protected. It is

important to note that the classification assigned to any specific body of water does not necessarily represent a description of the existing conditions or quality of waters.

With the exception of wetlands, all surface waters in the State are classified as Class A or Class B, with an overlay Waste Management Zone in Class B waters for public protection downstream of sanitary wastewater discharge points. Class A waters are managed for enjoyment of water in its natural condition, as public drinking water supplies (with disinfection and filtration) or as high quality waters having significant ecological values. Class B waters are managed for aesthetic values, recreation on and in the water, public water supply with disinfection and filtration, high quality habitat for aquatic biota, fish and wildlife, irrigation and other agricultural uses. The Secretary of the Agency of Natural Resources may designate, by permit, portions of Class B waters as “Mixing Zones,” or “Waste Management Zones,” for any waste that has been properly treated to comply with federal and state effluent requirements. Within a mixing zone or waste management zone water, conditions must not create a public health hazard, must not constitute a barrier to the passage or migration of fish or result in undue adverse effects on fish, aquatic biota, or wildlife, and must not interfere with any existing use of the waters. The Water Resources Board can decide an additional designation of Outstanding Resource Water. Currently the Batten Kill is the region’s only “Outstanding Water Resource” designation.

Most surface waters in the region are classified as Class B. All surface waters above 2500 feet elevation and those tributaries, lakes, ponds, and reservoirs that are designated as sources of public drinking waters are classified as Class A. Class A(1) Ecological Waters are to be managed to achieve and maintain waters in a natural condition. Class A(2) Public Water Supplies are to be managed for public water supply purposes. Class B waters shall eventually be designated as either Water Management Class B1, B2, or B3 during the basin planning process and this will be acted upon by the Secretary of ANR and the Water Resources Board. The distinction between A1 and B2 are defined by the use of the water and its quality. Under federal law all the waters of the State are required to be fishable and swimmable.

In classifying surface waters of the State, the Water Resources Board considers any adopted basin plan, and identifies existing uses, background conditions, and the degree of the water quality to be obtained and maintained. The Board, on its own motion or in response to a petition from a State Agency, a municipality, or from 30 or more interested persons, will review an established classification to determine if it is contrary to the public interest and, if so, what classification is in the best public interest.

### **Water Degradation:**

Non-point pollution sources are the greatest cause of surface water quality degradation. Common non-point sources of water quality impairment are siltation, thermal modifications, organic enrichment or low dissolved oxygen, and “acid rain” (coming primarily from outside the region). Other common causes are pathogens such as E. coli bacteria, flow alterations, and other habitat alterations. The principal sources of these impairments are agricultural runoff, stream bank destabilization and erosion, removal of stream bank vegetation, in-stream water impoundments, land development, and highway and parking lot maintenance/runoff.

The Secretary of the Agency of Natural Resources may designate portions of Class B waters as “Waste Management Zones,” for public protection downstream of sanitary wastewater discharge points (10 VSA, Chapter 47). Within a “Waste Management Zone” water conditions must not create a public health hazard, must not contribute a barrier to the passage of fish or result in undue adverse effect on fish, aquatic biota, or wildlife, and must not interfere with any existing use of the waters. As an alternative to

the discharge of treated effluent into rivers and streams, the Department of Environmental Conservation encourages towns and developers to review soil and geologic conditions for potential off-stream wastewater discharge sites. Some ski resorts have utilized this technique as an ecologically sound alternative to direct in-stream discharge. Off-stream discharge is filtered through natural ground cover and soils, and is potentially less harmful to surface waters.

### **Watersheds:**

A watershed is the land around a body of water that drains into that body of water. The Water Quality Division of the Vermont Department of Environmental Conservation has divided the State into 17 basin areas, determined by the watersheds of major rivers and lakes. The four basin areas within the region are the Hudson River, Deerfield River, Connecticut River, and Lake Champlain. These basins contain many rivers and tributaries, each with their own unique values and uses. Protection and enhancement of surface water quality requires the cooperation of all towns and landowners that live, work, and play in the watersheds of such surface waters. Degradation of a watershed must not be allowed. A wide range of activities that occur in the watershed can affect water quality. Building development, road construction and maintenance, agriculture, and logging can all increase the flow of sediments, nutrients, or other pollutants into surface waters. Alterations to streams, floodplains, and wetlands within the watershed can increase the rate at which these contaminants enter a particular water body. After defining a watershed, a number of actions may be taken to promote water quality protection. Enactment of appropriate municipal zoning, subdivision, and sewage disposal regulations, use of accepted management practices (including erosion control measures) for agriculture, forestry, and road construction and maintenance, land conservation, and public education and information are all techniques that can be included in a watershed management plan.

### **Lakes and Ponds:**

There are no particularly large lakes in the Bennington region. Sucker Pond (51 acres) in Stamford and Bourn Pond (48 acres) in Sunderland are the two largest (Table 6-1). However, the many small lakes and ponds that dot the landscape are irreplaceable natural resources that serve many important functions. Fishing is a popular activity on several of the lakes throughout the year, and swimming and boating are important recreational activities during the summer months.

The region's water bodies also provide important habitat for waterfowl and many other wildlife species. Moreover, the natural beauty of glistening ponds nestled among the hills contributes to the area's aesthetic values. For all of these reasons, it is important to protect the quality of our lakes and ponds, and to ensure that reasonable public access to them is maintained.

*Table 6-1*

Lakes and Ponds in the Bennington Region

LAKE NAME	TOWN (LOCATION)	LAKE AREA (ACRES)	BASIN AREA (ACRES)	ELEVATION (FEET)
Warm Brook	Arlington	11	3,636	762
Paran	Bennington	40	9,312	647
Emerald	Dorset	28	3,630	711
Prentiss	Dorset	5	207	--
South Village	Dorset	5	85	760
Bullhead	Manchester	5	29	740
Dufresne	Manchester	8	11,234	720
Equinox	Manchester	15	537	1,100
Pickerel	Manchester	9	31	740
Griffith	Peru	18	164	2,600
Hapgood	Peru	7	1,568	1,540
Mud (Peru)	Peru	10	371	1,420
Barber	Pownal	19	170	1,103
South Stream	Pownal	24	3,456	1,100
Thompsons	Pownal	28	548	1,406
Barbos	Sandgate	7	48	1,844
Kent Hollow	Sandgate	10	579	--
Madeleine	Sandgate	20	100	2,175
Shaftsbury	Shaftsbury	27	2,311	848
Sucker	Stamford	51	259	2,267
Stamford	Stamford	12	260	2,380
Beebe	Sunderland	8	148	2,460
Bourn	Sunderland	48	410	2,552
Branch	Sunderland	34	330	2,632
Lye Brook – N	Sunderland	10	96	2,600
Lye Brook – S	Sunderland	18	253	2,600
Adams	Woodford	21	817	2,320
Big	Woodford	31	715	2,265
Bugbee	Woodford	8	1,428	2,171
Little	Woodford	16	326	2,602
Mill	Woodford	7	988	2,040
Mud (Stam)	Woodford	6	23	2,240
Red Mill	Woodford	7	1,258	2,260

While all of the lakes and ponds in the region should be afforded some level of protection, those that lie at high elevations should be given special attention. These water bodies support especially fragile ecosystems that thrive only in a relatively narrow range of water quality conditions. Disturbances in nutrient flow, water temperature, or water chemistry can have serious ecological effects. Fortunately, most of these lakes and ponds are located in the Green Mountain National Forest or in remote areas where development pressures are minimal. The impacts of logging in these watersheds can be minimized through conformance with the Acceptable Management Practices (AMPs) of the Vermont Agency of Natural Resources. A threat to the water quality in these upland lakes that is more difficult to deal with results from air borne pollutants that originate outside the region, often hundreds of miles away. "Acid rain" is a very real threat to the ecology of these areas. Such inter-regional and inter-state problems can be effectively addressed only through strong federal air quality standards.

Comprehensive planning for the protection of lakes and ponds can be achieved through local and regional action. For such planning to be effective, three specific areas must be addressed: watershed management, shore land management, and lake management.

The area lying landward 500 to 1,000 feet from the water's edge is referred to as a lake's shore land. Activities occurring in shore land areas can have direct impacts on lake water quality. Improperly designed or sited septic systems, inadequate erosion control during construction, the spreading of manure, fertilizers and pesticides, and excessive removal of vegetation can all lead to increased sediment and nutrient loading in a lake. Towns can influence such activities through shore land regulations (as per 24 VSA Section 4411) and educational programs. Requiring that construction activities and other disturbances are set back a sufficient distance from the shoreline, and that undisturbed vegetated "buffer strips" are maintained along shorelines, are commonly used and effective methods of limiting pollution from shore land areas. Such techniques also help to preserve the natural beauty of shorelines and facilitate public access where such access is deemed appropriate.

Of course, activities that occur in or on a lake or pond can have immediate water quality impacts. One major concern is the spread of nuisance aquatic weeds call Eurasian water milfoil and water chestnut. These plants adversely affect fish and wildlife habitat and can render areas unsuitable for recreational use. These weeds can easily be spread when pieces of a plant become attached to boats and are subsequently released in another part of the lake or in a different lake. One lake in the region, Lake Paran, is currently suffering from a severe infestation of Eurasian water milfoil. Towns, lake associations, and other lake users should support and cooperate with the Agency of Natural Resources' programs that are designed to prevent the spread of these weeds.

A manual intended to assist communities in comprehensive planning for lakes and ponds is available from the Lake Protection Program of the Agency of Natural Resources (Planning for Lake Water Quality Protection, August 1990).

### **Rivers and Streams:**

The rivers and streams of the Bennington region have always been of great importance to people in the area. Native American encampments and the first white settlements were located near rivers and streams and are valuable cultural resources. These waterways provided a travel route through the rugged wilderness and served as a source of drinking water and food. As communities grew, streams were relied upon to power mills and factories, and to carry away industrial and domestic wastes. As the importance of waterpower declined, many streamside industrial sites were converted to commercial and residential

uses. Most often, these buildings were oriented toward the street, and the rivers and streams were ignored or used only for disposing of wastes. Over time, waterways in rural areas became surrounded by agricultural activity occurring on the rich bottomland soils found in the river valleys. Some mountain streams served, and may have been disturbed by, the logging industry; other remote upland streams remained in a relatively pristine state.

In more recent years, considerable emphasis has been placed on maintaining and improving surface water quality. Fishing, swimming, and canoeing have become very important recreational activities on many waterways in the region. Rivers and streams have also come to be recognized as important aesthetic resources, particularly since many roads parallel watercourses. Considerable development (and redevelopment in some village and urban areas) along rivers and streams has taken place in the past few years as waterfront property has become more valued and as land has been removed from agricultural use. The Towns of Bennington and Manchester also rely on rivers for the disposal of effluent from municipal wastewater treatment facilities.

Four main river systems drain the Bennington region. The Mettawee River rises in Dorset and flows north through Rupert, Pawlet (in Rutland County), and New York State where its waters are directed into a canal that leads to Lake Champlain. The Batten Kill also rises in Dorset, but flows south through Manchester, Sunderland and into Arlington, where the river turns west and flows through a gap in the Taconic Range toward its confluence with the Hudson River in New York. The two rivers that drain the southern part of the region, the Hoosic and Walloomsac, also flow westward to meet the Hudson River. A relatively small area within the region, lying east of the spine of the Green Mountain Range, is drained by streams that are located in the watershed of the Connecticut River.

The Mettawee River Valley is one of the most productive and well-established agricultural areas in the region. The Vermont Land Trust has been successful in its efforts to preserve farmland along the Mettawee through the acquisition of development rights. Both aesthetically and functionally, the Mettawee River is an intrinsically important element of that agricultural landscape. The Mettawee is also a popular fishing stream, supporting native populations of brown, brook, and rainbow trout. Maintenance of a vibrant agricultural economy in the Mettawee Valley will help to ensure that the river remains a valuable public resource. At the same time, farmers should manage their land to prevent excess run-off of fertilizers, pesticides, and other contaminants into the river, and take measures to protect the stream banks from erosion that can be caused by livestock.

Perhaps the premier recreational resource in the Bennington region is the Batten Kill. Once nationally recognized as an outstanding native brook and brown trout stream, the Batten Kill currently faces a variety of issues and problems. The Vermont Department of Fish and Wildlife has documented a dramatic decrease in the Kill's trout population over the last ten years. Although no specific reasons for the trout's decline have yet been published, it is possible that the recent discovery of whirling disease, a degenerative nerve disorder found in trout, could offer an explanation. Many other theories have been voiced among biologists and fisherman, including sedimentation, the increase in the use of pesticides, loss of large woody debris that serves as in-stream habitat, and the decrease in vegetated stream banks. Catch and release fishing regulations are currently in place from Dufresne Pond to the New York border.

The same characteristics that make the Batten Kill a productive and attractive fishery – swift current, cool clear water from mountain tributaries, a gravel substrate, and the beauty of the surrounding landscape – have drawn many other people to the river. Swimming, canoeing, kayaking, "tubing," and sightseeing are becoming ever more popular recreational activities in and along the river. The segment of the river lying

within the Town of Arlington receives the heaviest use by all of these recreational users. The intensity of use has raised concerns over both potential environmental effects (e.g., litter, stream bank erosion, etc.) and conflicts between the various user groups. Providing additional public access opportunities along the Batten Kill and its tributaries may mitigate some of these problems; such access could disperse some of the use and thus reduce environmental impacts and conflicts among different recreational uses. Of course, regardless of any such efforts, the main channel of the Batten Kill will continue to support intense and varied recreational use. Cooperation among principal users will become increasingly important. Municipal land use planning for areas along the Batten Kill should also be relied upon to prevent degradation of recreational and scenic values. The "Batten Kill Study," completed in 1986 by the BCRC with assistance from the National Park Service, contains a number of recommendations for addressing river planning and management issues. Other issues identified by that study include the fact that the river serves the Town of Manchester by receiving effluent from its wastewater treatment facility, and that a (currently inactive) landfill is located on the banks of the river in Sunderland.

Many of the recommendations of the Batten Kill Study are currently being considered by the Batten Kill Watershed Alliance. The Alliance, formed in the spring of 2001, is comprised of landowners, public officials, and interested citizens throughout the watershed in both New York and Vermont. More recently the Bennington County Conservation District has initiated the Batten Kill Buffer outreach program, which educates landowners about the importance of maintaining vegetated streamside buffer strips. Landowners can obtain native trees and shrubs to vegetate their stream bank through a conservation nursery established by the Batten Kill Watershed Alliance.

The Walloomsac River flows out of the Green Mountains in Woodford, through Bennington, North Bennington, and the southwestern corner of Shaftsbury. While its upper reaches and tributaries lie in relatively undeveloped mountain areas, the banks of the Walloomsac have been the sites of considerable development in Bennington since the eighteenth century. The Walloomsac traverses a diverse landscape that ranges from old mills and factories to residential neighborhoods to rural fields and woodlands, all within a few miles. The Walloomsac is stocked with rainbow and brook trout. The Bennington municipal sewage treatment plant is also located on the river. Bennington has undertaken projects to better integrate the Walloomsac into the fabric of the community. Preservation and rehabilitation of historic structures along the river and pedestrian walkways in suitable locations would serve to direct interest and attention toward this valuable resource. A recreational trail has been proposed along the river. This trail would follow the river from the Bennington pathway to the Henry Covered Bridge.

The North Branch of the Hoosic River forms the principal north/south valley in the town of Stamford. After merging with several streams and the Main Branch in North Adams, Massachusetts, the Hoosic turns toward the northwest and flows through Pownal. Like the Walloomsac, the Hoosic River flows past land uses as diverse as agricultural fields and industrial developments. Some of the past industrial uses have caused negative environmental impacts on the river. The site of the former Pownal Tannery had been declared a "Super Fund Site" in the early 1990's. Restoration and cleanup of the tannery site has recently been completed. Some areas of the tannery property have been reclaimed as open space while another section is now home to the recently completed Pownal Wastewater Treatment Plant. Although the water quality has greatly improved, the river's sediment is still contaminated with heavy metals and PCBs. The river is stocked with brown and brook trout, however it is not recommended that fish caught below the confluence of the North and Main Branches be eaten. The Hoosic River Watershed Association, a tri-state organization, has been formed to determine ways to continue to improve its water quality and to enhance the public's appreciation of the river.

The many smaller streams within the region – the Indian River, Green River, Bourn Brook, Roaring Branch, Paran Creek, and Bolles Brook, to name just a few – are very important, both because they directly affect water quality in the larger rivers and because they provide many of the same recreational and environmental protection benefits. Efforts should therefore be made to protect these streams and to provide for reasonable public access. Some streams and watersheds, such as Bolles Brook, need to be carefully managed as a primary water supply source.

Several basic principles regarding planning for rivers and streams have been espoused by the BCRC for many years. Simply stated, these principles suggest that, for the most part, rivers and streams will best serve our communities if they are preserved in their natural state and are maintained for the use and enjoyment of the public. In forested mountain areas, these objectives may be realized through public acquisition (as in the Green Mountain National Forest) and encouragement of low-impact recreational uses such as fishing, camping, and hiking. In rural areas, planning and development should emphasize protection of streamside vegetation and wildlife habitats, and public access for recreation. Areas along waterways in village and urban areas should be priority sites for investments in building renovation and reuse, riverfront parks and walkways, and similar projects that will encourage a renewed focus on these natural resources. In addition, certain waterways may provide a source of electricity through the development of small and environmentally sound hydroelectric facilities (see Chapter 8 - Energy).

### **Wetlands:**

Wetlands are lands transitional between aquatic and terrestrial systems where the water table is usually at or near the surface or the land is covered by shallow water. The State of Vermont defines wetlands as “those areas of the state that are inundated by surface or ground water with a frequency sufficient to support significant vegetation or aquatic life that depend on saturated or seasonally saturated soil conditions for growth and reproduction”. A wetland has one or more of the following attributes: (1) at least periodically, the land supports predominantly hydrophytic vegetation; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season each year. Benefits provided by wetlands include: flood and storm water control, maintenance of surface and ground water quality, open space and aesthetic appreciation, fish and wildlife habitat including a large number of threatened and endangered species, ecological research and educational opportunities, and sources of nutrients for freshwater food chains.

Wetlands include, but are not limited to, marshes, swamps, sloughs, potholes, fens, river and lake overflows, mud flats, bogs and ponds. Concentrations of wetlands in the Bennington region are found in river valleys and on the high plateau of the Green Mountains. There are some 10,889 acres of wetlands in Bennington County (U.S. Fish and Wildlife Service data); of these, 4,916 acres are forested wetlands and 4,576 acres are of the "scrub-shrub" variety. Open water wetlands, including those characterized by emergent vegetation, cover about 1,253 acres of land.

Since many of the region’s wetlands lie in the same lowlands where most of the future growth will occur, special attention must be given to the protection of these natural areas. The Vermont Wetland Rules (10 V.S.A. Chapter 37), adopted in February of 1990, classify wetlands into three categories. Class I wetlands are those identified as “exceptional or irreplaceable in their contribution to Vermont’s natural heritage,” Class II wetlands include most of those shown on the National Wetland Inventory as well as those contiguous to mapped wetlands, and Class III wetlands are those that have not been evaluated or are not considered by the Wetlands Board to be significant. The purpose of the Vermont Wetlands Rules is

“to identify and protect significant wetlands and the values and functions which they serve in such a manner that the goal of no net loss of such wetlands and their functions is achieved.” Although only wetlands designated as “significant” are protected under the Vermont Wetland Rules, the Rules state, “Wetlands not designated as significant under these rules should be assumed to have public value, and therefore may merit protection under other statutory or regulatory authority”.

The Army Corps of Engineers has the responsibility of administering Section 404 of the Clean Water Act that regulates the dredging or filling of any wetland. The Environmental Protection Agency and the U.S. Fish and Wildlife Service have review authority over any Army Corps permit. Several other federal agencies, including the National Park Service and Natural Resource Conservation Service, administer grant programs that encourage the protection of wetlands.

Local communities may wish to inventory wetlands within their jurisdiction in order to identify particularly important wetlands. This information may be used to improve the effectiveness of the state and federal regulatory process. Such local initiatives led the Water Resources Board to reclassify the “Dorset Marsh” to the more protected status of Class I while, more recently, a 15 acre complex of wetlands in Bennington was added to the Vermont Wetland Maps. Municipalities may also want to include measures in their zoning bylaws to protect wetland areas.

### **Vernal Pools:**

Vernal pools are temporary bodies of water that usually occur in woodland depressions. Most vernal pools are filled by spring rains and snowmelt and are typically dry during the summer months. Some pools are filled again in the fall and contain water during the winter. During wet years, many vernal pools contain water year-round. Typically vernal pools are less than 3 feet deep and vary in size from just a few feet across to over 100 feet in width. Vernal pools provide important breeding habitat for many amphibians including the tree frog and salamanders as well as many species of insects. These habitats are safe breeding grounds because they do not support fish populations. Since many amphibians return to the same vernal pool each year to breed, destruction or alteration of vernal pools may result in the loss of local populations of some species. However, because of their small size and temporary nature, vernal pools are not protected under the Vermont Wetland Rules. They are a unique and very vulnerable habitat area that must be identified and protected under municipal regulations.

### **Floodplains:**

Towns in the region that contain significant river or stream floodplains have adopted flood hazard area regulations based on federal standards and maps. Development in floodplain areas is inherently dangerous, due both to the immediate hazards associated with flood water inundation, and to the increased flooding that may occur downstream when developed floodplains are no longer capable of retaining flood waters. Such development can also interfere with the function and quality of floodplain wetlands. Flood hazard regulations are therefore necessary to reduce the risk that construction in floodplain areas will result in property damage, personal injury, or unnecessary costs to the public.

### **Shoreline Buffer Strips:**

The maintenance and enhancement of shoreline vegetation is perhaps the easiest and most effective means of protecting the many benefits and values associated with surface waters. Setting aside strips of

naturally growing vegetation is essential to the health of all streams, lakes and ponds. Vegetated shorelines contribute to water quality and shoreline protection in the following ways:

- Provide bank support,
- Provide food and shelter for fish and wildlife,
- Intercept and filter out pollutants,
- Keep water temperatures cool during the summer months when fish are susceptible to heat stress,
- Reduce surface runoff,
- Increase wildlife diversity,
- Reduce the impacts of flood and ice damage to stream channels, adjacent lands, and structures, and
- Preserve the natural characteristics of water.

Where onsite evaluations have not been conducted by the Department of Fish and Wildlife staff, the agency recommends riparian buffer zones not less than 50 feet and up to 100 feet for the protection of water quality, fish habitat, and wildlife habitat for regulated projects on streams. A greater or lesser setback may be recommended when an onsite investigation has been conducted. A buffer zone of 100 feet is recommended for regulated projects on lakes. A greater or lesser value may be recommended if onsite investigations have been conducted. Wider buffer zones are recommended for sites having the following characteristics: steeper slopes, specific natural resource values of concern (e.g. threatened or endangered species), and projects or activities posing great risks to the environment. Details regarding the calculation of buffer strip widths are available from the Department.

### **Groundwater:**

Groundwater provides the primary supply of potable water for most of the region. Groundwater moves beneath the ground through aquifers. An aquifer is an underground area of water-saturated sand, gravel or fractured bedrock that is permeable enough to yield water through wells or springs. The surface area that drains into an aquifer is called an aquifer recharge area. Groundwater occurs in the unconsolidated sediment of streams and buried valleys and in bedrock fractures. While the potential for groundwater in areas of unconsolidated sediment is generally favorable, wells producing water from rock fractures usually have lower yields. The region's mountains and uplands are composed of exposed bedrock or bedrock which is covered by a thin layer of glacial till with low permeability. Bedrock fractures are the primary source of groundwater in these upland areas. Protection of groundwater requires the protection of surface waters, wetlands, watersheds, and recharge areas in a coordinated and ecologically sound fashion.

When an aquifer becomes polluted, simply removing the source of contamination does not clean up the groundwater. A contaminated aquifer may remain polluted for many years or, in some cases, forever. Groundwater occurring in rock fractures is highly susceptible to contamination. While unconsolidated sediment can usually filter out organic pollution contained in groundwater, the same water can travel for miles through rock fractures without any appreciable purification. Once contamination occurs, control and abatement are extremely difficult. Contamination sources include improperly designed or malfunctioning septic systems, industrial floor drains, poor agricultural practices, road salt, leaking underground storage tanks, and old solid waste disposal sites.

The Vermont Agency of Natural Resources has begun to prepare detailed groundwater maps and to classify groundwater. There are four groundwater classes defined in Title 10 VSA, Chapter 48 Groundwater Protection, Subchapter 2, Section 1394, as follows:

- Class I: Suitable for public water supply. Character uniformly excellent. No exposure to activities that pose a risk to its current or potential use as a public water supply.
- Class II: Suitable for public water supply. Character uniformly excellent but exposed to activities that may pose a risk to its current or potential use as a public water supply.
- Class III: Suitable as a source for individual domestic water supply, irrigation, agricultural use, and general industrial and commercial use.
- Class IV: Not suitable as a source for potable water but suitable for some agricultural, industrial and commercial use.

By statute, all groundwater in the state is classified as Class III water unless it is reclassified by the Secretary of the Agency of Natural Resources under provisions of Title 10 VSA, Chapter 48 Groundwater Protection, Subchapter 2, Section 1394. A new groundwater protection rule and strategy was adopted by ANR in January 2000. This action is designed to “minimize risks of groundwater deterioration by limiting human activities that present reasonable risks to the use classification...”

Although most of the region’s inhabitants and visitors rely on private wells or springs for their primary water supply, there are a number of public community water supplies (water systems with at least 10 service connections or serving at least 25 individuals) located in the region. Protection of these public water supplies is obviously of great importance. Protection areas for these water supplies have been delineated by the Vermont Department of Health, either through geohydrologic studies or by establishing a fixed radius around the source for those supplies for which geologic studies have not been completed.

Vermont law (10 VSA, Chapter 56) sets forth standards and a permit process for municipal and public water supply systems. Under the authority of the Vermont Agency of Natural Resources, providers are required to prepare Source Protection Plans setting forth a long-term protection strategy for public water supplies. Towns are encouraged to identify, monitor and protect important local groundwater resources as part of their planning programs. Such programs may include zoning provisions in addition to the identification and control of potential sources of contamination. Precautionary and security measures need to be in place as well, given the potential threat of vandalism, terrorism, and acts against humanity.

### **On-site Wastewater Treatment:**

Many residences and businesses rely on individual on-site wells to serve their potable water needs while utilizing on-site septic systems for wastewater disposal. Protection of these water supplies is of considerable importance, and may best be accomplished through strict adherence to municipal and state health regulations. The passage of the Wastewater System and Potable Water Supply Rules in 2002 closed the 10-acre loophole while permitting the use of advanced technologies in the design of on-site systems.

On July 1, 2007 all existing septic regulations will terminate and the State’s on-site wastewater and potable water supply regulatory system will go into effect. Those municipalities that have received

delegation (a transfer of authority) from the State will administer the State program locally by issuing permits and taking enforcement actions in compliance with State regulations governing wastewater and potable water systems.

Those municipalities that have not received delegation from the State will have those provisions of their existing ordinances and zoning bylaws which establish technical standards and criteria for design, construction, operation, and maintenance of potable water supplies and wastewater systems superseded by the technical standards and criteria of the Wastewater and Potable Water Supply Rules and the Vermont Water Supply Rules. As of July 1, 2007 these rules will control any inconsistent municipal regulations, and all administration, permitting, and enforcement procedures shall revert to the Department of Environmental Conservation. Municipalities that do not receive delegation will still retain the authority to:

- issue allocation permits for wastewater treatment systems,
- promulgate rules for the control and operation of public wastewater treatment systems,
- establish grease control requirements, and
- assess fees, rents and charges to pay the principal and interest of wastewater treatment system bonds, the expense of maintenance, operation, and improvement of the wastewater treatment system, and to establish a dedicated fund payment.

Municipalities interested in receiving delegation or with questions concerning the interaction between local and state wastewater and potable water permitting authority should contact the DEC Wastewater Management Division.

## **6.2 Air Quality**

Air is a resource that, although critical to our well-being, is generally taken for granted until it becomes polluted. The quality of the air in the Bennington region is generally excellent, and efforts should be made to ensure that it remains clear and clean. Threats to air quality may come at a number of levels. The increasing cost of disposing of solid waste may have the undesired effect of encouraging the burning of refuse; if such burning is not prevented, serious localized air quality problems may develop. Another concern is the relatively heavy use of wood as a fuel for heating homes and businesses; inefficient stoves and furnaces can lead to excessive discharges of particulate pollution. Certain industrial facilities can be significant point sources of air pollution unless appropriate control technologies are used. Such pollution can be a particularly troublesome problem because our air quality may be impacted by pollutants that originate from industrial sources far outside the region as well as from local sources. Acid precipitation, largely attributable to emissions of sulfur and nitrogen oxides, is one well-publicized example of an air pollution problem that affects the Bennington region even though most of the pollutants are produced elsewhere. Auto emissions alone are a major source of air contaminants. Programs and policies need to be implemented to improve emission control technology, advance hybrid engines, and reduced vehicle miles traveled.

Trash burning is illegal in Vermont, yet many people still do it. Today's trash contains plastics, metals and other synthetic materials that emit toxic fumes and harmful quantities of dioxins when burned. The chemicals that are created and released by burning trash have been scientifically shown to increase the risk of many health problems including heart disease, asthma, emphysema, headaches and cancer. Children, the elderly, and people with asthma and other lung diseases are especially vulnerable. Under state law, enforcement may be brought by duly authorized officials of municipalities or solid waste districts, environmental enforcement officers employed by the Agency of Natural Resources, or by an

authorized law enforcement officer. Violators are subject to a penalty of up to \$500 and community roadside cleanup. If violators fail to pay their fine, their driving license will be suspended for a period of ten days and they will lose their hunting and fishing license privileges for a period of one year. For more information the public can go to [www.dontburnvt.org](http://www.dontburnvt.org).

In addition to participating in environmental proceedings, communities can promote clean air by guiding development to certain areas while limiting it in other areas, and by encouraging new growth that is economically beneficial but which does not degrade air quality. New developments should also be energy efficient to reduce the amount of fuel needed for heating.

### 6.3 Agricultural and Forest Lands

#### **Agriculture:**

Agriculture is a vital part of the Bennington Region's rural heritage. While the number of farms and total acreage devoted to agriculture has declined in the region, as in much of New England, over the past several decades, a number of active farms remain and some of the region's most productive soils are still cultivated. A working agricultural landscape is crucial to maintaining the region's rural character while providing irreplaceable aesthetic value to both residents and visitors. This characteristic mix of fields and woodlands also provides the habitat necessary to sustain a large and diverse wildlife population. Of course, as a local natural resource based industry, agriculture continues to be a desirable and valuable element in the local economy. Moreover, even though agriculture has declined in many towns throughout the region, forward looking communities should strive to preserve their most productive soils for some future time when local farming may once again become economically important or necessary.

**Table 6-2**

Agricultural Data for Vermont and Bennington County

	<u>Vermont</u>	<u>Bennington County</u>
Total number of farms	6,571	228
Total farm acreage	1,244,909	41,126
Average acreage per farm	189	286
Total cropland acreage	567,509	13,379
Total value of agricultural products sold (\$1,000)	473,065	7,818
Average per farm (dollars)	71,993	34,292

SOURCE: 2002 United States Census of Agriculture

Orchards, tree and nursery farms, greenhouse, vegetable and berry crops also contribute to the region's diversity and provide direct cash crops to area residents. Continuation of these resources should not be taken for granted. Recently there have been an increasing number of farmers producing organic products. Some are driven by their own commitment to practice good land stewardship, while others are responding to consumer demand. Regardless of their initial incentive, reducing or eliminating the use of conventional fertilizers and pesticides have increased consumer choice and created a higher value product. An assessment of existing specialty farm products should be prepared and potential new niche products identified.

A growing number of consumers are searching for ways to identify where their food is coming from. This interest in purchasing local food products is an important force supporting smaller farms in the region. Consumers are taking advantage of increasing opportunities to buy locally produced products through community supported agricultural cooperatives, local farm stands and farmer's markets. Several major grocery chains in the region are starting to purchase from local producers and advertise the availability of these products.

The acreage of open pastures and small hay fields has decreased drastically, declining from 17% of statewide land use in 1949 to less than 3% today. These open fields and the mixed habitat at field edges are disappearing as a consequence of well intentioned development regulations coupled with the decline in dairy farming. Owners of former agricultural properties and mini-estates have had little reason to maintain fields and pastures in their agricultural state. The BCRC has developed a proposal for conserving small fields. Several factors have been identified that affect the ability to stabilize and conserve open fields. Landowners must understand the importance of their small fields and see the value of conserving a mix of fields and forest. The most effective processes for conserving open fields, particularly those near growth centers and major highways, must be identified and implemented through a regional or local program which promotes the long term preservation of open fields.

BCRC's ultimate objective is to educate and recruit owners of priority small fields to participate in the preservation of those fields. To achieve this, the Commission proposes a three-phase plan to address these issues.

1. Acquire more comprehensive information on existing small field conservation practices and specific data on fields within defined areas of Bennington County, such as several adjacent to traffic arteries and several rural landscapes;
2. Begin an educational process among landowners, towns, and the public on the vulnerability and value of small fields and on the effort under way to conserve them;
3. Develop a long-term plan, including education, to stimulate legislation, acquisition, subsidy and other incentives for open land preservation, with assessment and modification as experience indicates to expand existing programs and foster new programs.

The many values of agricultural lands can be preserved if a thoughtful and effective planning process is undertaken. A necessary first step in this planning process is the identification of important agricultural lands. A land evaluation and site assessment (LESA) program can be a most effective tool in the preparation of such an inventory. A LESA program provides a means of assessing the relative significance of parcels of agricultural land. The "land evaluation" is a measure of the productive capability of a parcel of land based on its constituent soil types; the "site assessment" measures other characteristics of the parcel: location, size, actual land use, aesthetic appeal, and so on. By ranking parcels in this way it is possible to focus preservation efforts on the most valuable farmland. To be effective, LESA rating criteria must be kept up to date and evaluated regularly.

A fundamental mechanism for preserving outlying agricultural areas is to encourage development in and around existing village and urban centers, thus relieving the pressure to develop elsewhere. Public investments and zoning incentives should encourage growth in these areas. Conversely, zoning in important agricultural areas should permit only those uses (and density levels) that will not detract from

the rural character of these areas; investments in roads and other infrastructure in such areas should focus on public safety rather than facilitation of new development. A zoning technique that may be effective in some towns is the concept of transferable development rights (TDRs), whereby the right to develop land in an important agricultural area may be transferred to a designated growth center where a greater density of building may be appropriate. On individual parcels, municipal zoning and subdivision regulations may be used to encourage open space or cluster development, where such a development pattern would preserve important agricultural land more effectively than a conventional subdivision of the land.

A number of other strategies may also prove helpful in efforts to maintain agricultural lands in the region. Participation in the Vermont Use Value program should be encouraged so that owners of farmland are taxed based upon their property's use for agricultural, rather than development, purposes. Acquisition of development rights to agricultural lands, through gift or purchase, by a qualified land trust or other conservation organization is another proven way to preserve agricultural land. The Vermont Land Trust has preserved over 3,000 acres of agricultural land in the Mettawee Valley since 1986 using such an approach. Funding opportunities such as those provided through the Vermont Housing and Conservation Trust may be available to support these efforts.

### **Forests:**

Extensive forests cover much of the Bennington region, particularly in the Green and Taconic Mountains. Numerous smaller woodlots are found throughout the valley areas. All of these woodlands help to prevent soil erosion and flooding, contribute to air and water quality, and provide valuable timber, wildlife, recreational, and aesthetic resources. The economic importance of the timber industry has historically been of great significance in the region, and continues to contribute to the area's economic diversity. The array of recreational uses supported by the region's forest lands is particularly impressive: hunting, camping, hiking, cross-country skiing, snowmobiling, and mountain biking are a few of the more popular activities. Many people in the region make use of their sugar bush to produce maple syrup or maple sugar, and several of the larger producers derive significant economic benefits from the activity. To protect these many values, it will be necessary to ensure the continued existence of the forest resource.

Fortunately, much of the region's forest land is located in rugged mountainous areas and has thus not been developed. In fact, with the decline in both agricultural land use and the demand for wood products during the twentieth century, the amount of forested land has actually increased. Recently, however, there has been a strong market for good quality saw timber. While a strong market makes improvement harvests in many woodlots commercially viable, it can also persuade some landowners to liquidate the timber resource completely. Research suggests, however, that the private owners of the majority of the region's forests are not motivated by economic incentives alone. In fact, most forest owners highly value the non-economic resource attributes of the land. Nonetheless, the threat of permanent conversion to non-forest uses looms large when ownership passes to younger generations or other new ownership. There is a need to ensure the continued protection and management of this resource so that it will continue to serve the public.

Many of the preservation strategies for agricultural lands are equally applicable to forest lands. Most of the towns in the region have zoned upland forest areas to permit only forestry, recreation, and other uses that will protect the value of the resource; such zoning designations are proper and should be maintained. Use value taxation, creative development techniques, and acquisition of land or development rights can also be used to protect forested parcels that have been found to be valuable to a community.

The education of woodland owners has been greatly enhanced by the Vermont Current Use Program that requires the landowner to create and implement long-term forest management plans. Other programs sponsored by the Woodlands Owner's Association and the Department of Forests, Parks and Recreation have increased woodland owners' awareness of management options that combine timber improvement and utilization with enhancement of wildlife habitat. Professional programs for loggers and other forest workers such as the Logger Education to Advance Professionalism and the Game of Logging programs have increased safety levels while improving forest management practices. Information on these educational and tax incentive programs can be obtained from the Bennington County Forester.

Public access to forests is made possible through the largesse of landowners and the extensive public holdings in the Green Mountain National Forest. As more and more private lands are closed to the public, the importance of the National Forest lands grows. Eight Bennington region towns (all those that would be affected) voted to support extension of the National Forest proclamation boundary westward to include the Taconic Range. The extension was approved by the Vermont Legislature in 1989, and by the United States Congress, and was signed into Law by the President in 1991. Lands within the proclamation boundary may, with the approval of the Town and landowner, be added to the National Forest, thus ensuring continued public access to these areas. National Forest acquisitions in the Taconic Range include lands in Arlington, Dorset, Manchester, Rupert and Shaftsbury.

In February 2006 the Forest Service adopted The Green Mountain National Forest Land and Resource Management Plan. The BCRC participated throughout the planning process by hosting 13 local planning group meetings as well as submitting written testimony supporting Management Alternative E. The BCRC will continue to support the planning programs of the Green Mountain National Forest.

### **Invasive Species**

Importations of plants and lumber from other parts of the world have led to infestations of exotic, non-native plant and insect species. Such non-native species, if left unchecked, could seriously undermine the region's forest and agricultural economies. The forest tent caterpillar, hemlock wooly adelgid and Asian longhorn beetles are several species of insects that are currently threatening the State's forestry industry.

### **6.4 Earth Resources**

Mining and processing of marble and iron ore were once important economic activities in Bennington County. Limestone was both burned for lime and quarried and cut for dimensional stone, and ochre beds were exploited for paint manufacture. Many of these historic quarries remain hidden away in corners of the forested county landscape. Sand and gravel extraction is currently the only significant earth resource industry in the region. The largest deposits, and the greatest number of historical and currently active sand and gravel pits are located in the towns of Shaftsbury and Manchester. There are, however, many smaller deposits and active pits in most of the towns in the region. These extraction operations employ quite a few people and support the area's construction industry. It is therefore important to protect these resources to ensure that they remain available for use in years to come. Towns should identify important deposits and limit land uses that would conflict with extraction of the sand and gravel or that would render the resource inaccessible should it be needed in the future.

Consideration must also be given to the fact that sand and gravel extraction and transportation of minerals can be damaging to the environment and public infrastructure if carried out improperly. Such negative impacts may include:

1. excessive dust and noise which may result in unreasonable nuisance to neighboring properties,
2. improper site management which may lead to excessive soil erosion and inadequate site restoration,
3. degradation of the site which may result in aesthetically unpleasing conditions in the vicinity, and
4. deterioration of town and state highways due to frequent truck traffic.

Most town zoning bylaws contain special regulations designed to minimize the environmental impacts of earth products removal, and to assure restoration of the site once work is completed. Several large sand and gravel pits pre-date local and state regulations that require rehabilitation. Towns should work with the owners of these pits and the Natural Resource Conservation Service to develop rehabilitation plans that will stabilize the sites and allow for appropriate new land uses. Some gravel is extracted from streambeds; an extremely high level of scrutiny must be exercised over any such operation because of the potential for downstream pollution and damage to the stream ecosystem.

## **6.5 Wildlife Resources**

The diverse natural environments in the region provide habitat for a wide range of wildlife species. Mature softwood and hardwood forests, young second growth woods, open farmland, rocky ledges, lakes, and wetlands all combine to support populations of large mammals, small mammals, amphibians, reptiles, songbirds, raptors, upland game birds, and waterfowl. Some species, such as the moose, appear to be flourishing on their own accord. The Department of Fish and Wildlife and the U.S. Forest Service have reintroduced other species such as the fisher, pine martin, and wild turkey to the region. The turkey restoration program, begun in the late sixties, has been extremely successful, as is evident by the large flocks observed throughout the region. The success of the fisher and pine martin restoration programs is somewhat more difficult to measure, as these remote forest dwellers are extremely cautious and shy.

Our native wildlife species are valued for a variety of reasons. Many people simply enjoy their presence while others rely on wildlife for sport, food or income. For many of us, it is the combination of the above factors that play the role of our appreciation of wildlife. We know that viable habitat is the single most important survival need for most species, yet for many, habitat loss and fragmentation is a real and present threat. “Critical habitats areas” are defined by Act 250 as “concentrated wildlife habitat, which is identifiable and is demonstrated as being decisive to the survival of a species of wildlife at any period of its life.” These habitats include any areas necessary to support the food, shelter or breeding needs of rare, threatened or endangered species, white-tailed deer wintering areas (deer yards), and black bear production areas and travel corridors.

An effort should be made to identify additional critical wildlife habitats in the region. Sites proposed for development should be examined to determine if critical wildlife habitat is present, and measures should be taken to minimize adverse impacts on the habitat. Examples of such measures include: the maintenance or provision of natural buffers between developed areas and wildlife habitat, the maintenance of vegetated corridors along streams, shorelines, wetlands, and between otherwise separated habitat areas, and the utilization of construction practices which minimize environmental disturbances.

### **Rare Species and Critical Natural Communities:**

The Bennington region contains a number of rare plant species, animal species, and natural communities that warrant special protection. The Vermont Natural Heritage Program, a division of the Fish and Wildlife Department, has identified these areas. The plants and animals in these areas are rare either because they have very particular habitat requirements, because they are at the edge of their range, because they are especially vulnerable to disturbance, or because they have difficulty reproducing for unknown reasons. A fundamental principle of resource conservation is to maintain ecological diversity. It is therefore incumbent upon us to see that these rare species are protected. By identifying the approximate locations of these plants and animals in regional and local plans, the accidental destruction of these species and their habitat during land development may be avoided.

Although not formally designated as such, areas of steep slopes and high elevations are important fragile ecosystems. Lands above 2500 feet are especially vulnerable natural environments because of their thin soils, sensitive vegetation, important wildlife habitats, and often above average precipitation and wind. Approximately 48,245 acres (13%) of the Bennington Region are above 2500 feet in elevation.

### **Deer Wintering Areas:**

Deer wintering areas, or deeryards, provide relief from harsh winter conditions by providing protection from energy depleting deep snow, cold temperatures, and wind chill. These habitats are quite often associated with a high degree of softwood cover, areas that receive low snow accumulation, south or westerly aspects, generally moderate elevation and low human disturbance. The Department of Fish and Wildlife has made a great effort to map these deer wintering areas throughout the state. It is believed that deer will travel great distances to the same wintering areas, and if the habitat conditions are maintained the deer will utilize the same sites over a long period of time.

According to the Department of Fish and Wildlife maps (see Wildlife Habitat Map), deer wintering areas in the region are widespread. Towns should consider deer wintering areas and connecting corridors in planning for management and conservation of forested areas. Towns should also make an effort to identify other areas that have not yet been mapped.

### **Black Bear Habitat:**

The black bear is a particularly sensitive environmental indicator of remote forestland. The mountainous, forested landscape that we appreciate for recreation and beauty are critical for the bear's survival. These animals will only exist as long as there is habitat to support them. If possible, large tracts of undeveloped land should be left as such for bear survival and production. Additionally, since bears are hesitant to cross under or over guardrails, care should be given whenever placing these structures within bear travel corridors. Fragmentation of Vermont's forested landscape would most likely lead to decline and disappearance of bears.

The Vermont Department of Fish and Wildlife has mapped two types of black bear habitat in the region: bear production habitat, and seasonal bear habitat. Bear production habitat is described as "generally contiguous and remote forest land, containing critical habitats necessary to bear survival." These production areas support relatively high densities of cub producing females. Seasonal bear habitats are "regions frequently used by bears, including some cub producing females. These areas contain critical seasonal feeding areas and vital bear travel corridors." Both types of bear habitat cover the remote forest lands of the Taconic and Green Mountain Ranges.

Within both types of bear habitats are “critical habitat areas.” These critical habitats can include bear scarred beech stands, oak stands, wetlands, and travel corridors which link two or more otherwise isolated bear habitats. However, such critical habitats have not been fully mapped. With the assistance of the Department of Fish and Wildlife, towns should attempt to identify critical habitat areas within the broader areas defined on the bear habitat maps and encourage landowners, developers, and state agencies to be sensitive to these areas in their management plans. Wherever possible, large tracts of undeveloped land should be left as such for bear survival and production.

### **Fisheries:**

The region’s rivers and streams provide cold-water habitat for brook, brown and rainbow trout, small mouth bass, and several other species of fish. Many of the lakes and ponds, including Emerald Lake, Lake Shaftsbury, and Lake Paran provide warm-water habitat for large mouth bass, perch, pickerel and several other species of fish. Both the warm and cold-water habitats must be able to provide adequate supplies of oxygen and support the plant, animal, and insect life on which the native fish populations feed. Additionally, waterways must be kept open of obstructions, since many cold-water species migrate to the same breeding areas year after year.

Development and construction in and around rivers and streams can damage fish habitat. Care must be taken to prevent sedimentation, turbidity, and flow alteration. The damming of streams to create ponds can damage fish habitat in a number of ways. Increased water temperatures, decreased dissolved oxygen, nuisance algal growth, and the introduction of non-native species all damage the natural ecosystem of the stream and can cause decreases in native fish populations. Accordingly, pond construction is discouraged unless fed by groundwater or designed so as to avoid the negative effects described above. Ponds should be designed to withstand a 100-year storm event; pond failures can lead to property damage as well as the release of sediment and possible invasive species. As mentioned in the shoreline buffer section, streamside buffer strips of at least 50 feet are crucial for stream and river water quality and fish habitat. Accommodation of river uses needs to be carefully managed (access, parking, pathways, boating, fishing, tubing).

Construction of stream crossings can pose an additional threat to fish habitat and migration. Sedimentation and disruption of stream bottoms can reduce the oxygen supply. Some stream crossings can create barriers to fish passage, restricting access to spawning and refuge areas. The Vermont Department of Fish and Wildlife categorizes stream crossings and their associated impacts as follows:

- (1) Bridges or bottomless plate arch – generally minimal habitat loss or disturbance, not a barrier to fish passage.
- (2) Box culverts/Squashed culverts – may result in significant habitat loss, may act as a barrier to fish passage.
- (3) Round culverts – result in significant habitat loss, often acts as a barrier to fish passage, constricts the stream channel.

As bridges and bottomless plate arches generally pose the least potential for adverse impacts to the stream resource, they are recommended over other structures. It is realized, however, that round culverts are often less costly and therefore widely used. To minimize the previously addressed impacts of these necessary structures, certain modifications may be necessary. These modifications may include such measures as over-sizing culverts, installing baffles, or burying the culvert below streambed level.

## **Nuisance Wildlife:**

The national trend in the decline of hunting and trapping activities have led some wildlife species to proliferate to levels where their presence is often viewed as a nuisance. While their populations have steadily grown, many Canada geese appear to have abandoned their migration instincts. Large congregations of these “resident” geese have caused site-specific pollution on lakes, ponds, golf courses and lawns. Meanwhile the decreasing demand for natural fur pelts have led to a large growth of the beaver population. Although often admired as nature’s engineers, the beaver’s dam building abilities can lead to costly property damage by flooding roads, wells, septic systems and wood lots. It is advised that municipal officials and private property owners consult with the Department of Fish and Wildlife toward resolving such wildlife nuisances.

## **6.6 Unique Natural Features and Scenic Resources**

The BCRC and the Vermont Natural Resources Council have compiled inventories of unique geological, botanical, and hydrological natural features. The waterfalls, caves, glens, rock outcroppings, and other unique features described in these reports are located throughout the region and add to its special character. Any development that occurs near one of these sites should include undisturbed buffers around the resource to ensure that it is not damaged.

Similarly, the natural appearance of the region's landscape is fundamental to its rural character and appeal. As such, it is clear that scenery is a very real economic asset. People are drawn to this area by the beauty of the hillsides, mountains, rivers, fields, and the traditional townscapes that are complemented by this natural landscape. These scenic values should be protected. A beautiful agricultural valley set against a backdrop of wooded hillsides is surely more valuable to the region than the same valley beneath a hillside that is cluttered with unsightly buildings. Consequently, development on visually prominent hillsides or ridgelines must be carefully planned, with special care given to the siting and screening of buildings, to avoid the loss of scenic value. Development that reinforces traditional development patterns – growth in and around historic village centers and in clusters – will also help to maintain the region's aesthetic appeal.

Scenic resources are often taken for granted until they are compromised or threatened. With assistance from the BCRC, several towns in the region have recently completed scenic resource inventories. Once identified, a town could utilize one of the following measures to protect scenic resources:

- purchase of scenic lands,
- scenic easements or purchase of development rights,
- consideration of scenic impacts of public investment activities such as utility poles, street lights, and cleared power line rights-of-way,
- public education, and
- regulation through zoning, subdivision regulations, and the Act 250 review process.

The BCRC has developed several model bylaws to help communities protect scenic mountainsides and ridgelines. A model telecommunications facilities bylaw developed by the commission has proven particularly timely, as several towns have recently been planning for the age of wireless communications.

Light pollution or “sky glow” is a cumulative and increasing problem, especially near the urban areas and major resort development centers. Light projecting upwards from these areas produces a glow near the horizon that diminishes the natural quality of the nighttime landscape and night sky. As these urbanized areas continue to expand, special consideration needs to be given to lighting design in order to minimize this cumulative adverse effect. Likewise, low density sprawl in rural areas can change the evening landscape by casting and spreading light over a larger rural area. Effective lighting can be designed to minimize site specific impacts as well as the cumulative effect in larger geographic areas. Effective lighting design must be incorporated into project planning, whether public or private. Publications such as The Outdoor Lighting Manual for Vermont Municipalities and those of the Illuminating Engineering Society of North America (IESNA) are valuable sources when determining appropriate levels of lighting. Municipalities should incorporate lighting standards in their bylaws and apply similar principles and standards in municipal buildings and infrastructure. Some municipalities, such as Bennington, have included such standards for the review of projects.

### **Recreational Resources:**

The region’s scenic and natural environment provides a special outdoor recreation experience for the area’s residents, tourists, and second home owners (camping, hunting, fishing, swimming, boating, canoeing, kayaking, hiking, biking, skiing, snowshoeing, snowmobiling, nature and bird watching).

Many of the outdoor recreational resources in the region rely on the traditional willingness of landowners to allow access to private lands. As the population increases, so too does the pressure on private lands. With the increased recreational use of private lands, more landowners experience vandalism, littering and the general disregard for private property. Landowners must feel secure in the protection of their traditional rights and land uses if private lands are to continue to be used for recreational opportunities. Additionally, incentives for landowners to keep their land open are needed.

The region is host to sections of the Appalachian Trail, the Long Trail and the Taconic Crest Trail as well as a large section of the Green Mountain National Forest, three State Parks, and wildlife areas managed by the Department of Fish and Wildlife. As pressure increases on private lands, and as more private land is posted, the need for publicly owned land for recreation is critical. In bordering North Adams, Massachusetts efforts are underway to upgrade a rail-trail and the potential for interstate connectivity should be explored. It is in the region’s interest to encourage Federal, State, and local acquisition of land well suited for outdoor recreation, provided that adequate financial and management arrangements are made with involved local governments. Publicly owned lands should include areas that are managed for multiple uses, so as to provide both motorized and passive recreational opportunities.

There are six privately owned campgrounds in the region that contribute to the local economy. These private campgrounds complement the State Parks by offering diversified, seasonal recreational opportunities with additional amenities such as RV hookups with Internet and satellite connections. As tent camping continues to decline in popularity, these private campgrounds will play a greater role in offering residents and visitors a stress free outdoors experience while having the comforts of home in their RVs. Some are located near or adjoin federal and state land that provide for a variety of recreational experiences (snowmobiles, wilderness, hiking, fishing, and hunting).

The maintenance and development of designated recreational trail networks including hiking, cross-country ski, snowshoeing, snowmobile and all terrain vehicle networks are encouraged. In planning for development near these recreational amenities, design plans should work toward separation of vehicular

traffic and other competing or incompatible land uses. New development and subdivisions that are insensitive or diminish the enjoyment or continued use of trail networks should be discouraged.

The region's rivers and lakes offer opportunities for swimming, fishing, and boating, all of which require public access for parking or boat launching. Emerald Lake and Lake Shaftsbury are in state parks and have swimming beaches and facilities for boating, hiking, picnicking, and camping. Hapgood Pond, high in the Green Mountain National Forest in Peru, and Adams Reservoir at the Woodford State Park, offer a similar array of recreational amenities. A small but popular park operated by a private organization is located at Lake Paran. These parks are all maintained to provide for public recreational use of the lakes, and their geographic distribution ensures that no resident of the region must travel too great a distance to have access to one of the parks.

It is important that lakes and any public lands surrounding them are accessible to the public. While Vermont state parks close for the season, they remain available for use throughout the year. Off-season and winter use can provide a unique experience of peace and solitude to a variety of recreation pursuits. These range from backcountry hiking, nature observation, cross-country skiing, sledding, snowshoeing, snowmobiling on designated routes, and off-season camping with approval from regional park managers. Access to other lakes and ponds may be facilitated through the use of conservation or access easements and public acquisition of particularly valuable shore land areas. Recreational use and access must be managed, however, to ensure that excessive or inappropriate use does not damage the environment or result in conflicts among different user groups.

## **6.7 Policies and Actions**

1. The surface waters of the Bennington region are extraordinarily valuable natural resources that must be protected from incompatible development and land uses. The natural characteristics and values of these resources should be preserved. An undisturbed buffer of at least 50 feet in width should be maintained, wherever possible, between any developed area and a river, stream, lake, pond, or wetland to ensure that water quality and natural ecosystems are protected. Greater buffer distances often will be required depending on the nature of the land and affected waterway. The density and type of new development in shore land areas may need to be limited to a greater extent than in other areas in order to prevent environmental damage and protect the values associated with these resources.
2. Recreational uses such as fishing, canoeing, and swimming are appropriate in natural settings in and along rivers, streams, lakes, ponds, and wetlands. Development planning should include provisions for public access to these resources. The intensity of use and access points should be limited in particularly fragile ecological areas, especially when motorized vehicles are concerned.
3. Development in floodplains must be carefully controlled in accordance with flood hazard area regulations. Development is strongly discouraged in flood hazard areas.
4. Aquifers and ground water recharge areas (including all designated source protection areas) must be protected from activities or development that would adversely affect the quantity or quality of available ground water. Municipal subdivision and health ordinances and the regulations of the Vermont Agency of Natural Resources must be strictly enforced to protect individual water supplies.

5. Developments or activities that would significantly degrade air quality in the region, or that would impede economic development in the region, should not be permitted. Efforts to limit air quality degradation from sources beyond the region should also be supported.
6. Public sector planning and investments should promote growth in designated growth centers and discourage scattered development in outlying areas that would result in the loss or fragmentation of important agricultural or forest lands.
7. Developments on agricultural lands shall be planned so as to preserve the viability, or potential viability, of the site for agricultural use. Developments should also include the objective of maintaining the values afforded by woodlands on or near the site.
8. Silvicultural practices that minimize soil erosion and impacts on roads, streams, wildlife habitat, and the natural appearance of mountain and ridge tops should be employed.
9. Developments should be planned and permitted so as not to preclude the future utilization of important earth resources.
10. The extraction and processing of earth resources and the disposal of wastes must not have an unduly harmful impact on the environment or surrounding land uses and development. Upon completion of the extraction or processing, the site should be restored and left in a condition suited for an approved alternative use.
11. An activity or development in the vicinity of an important natural area or wildlife habitat must be carefully planned so that adverse impacts are avoided.
12. New construction on visually prominent shorelines, hillsides, or ridges should include provisions for siting and screening buildings to protect important scenic values. Towns in the Bennington region are strongly encouraged to adopt appropriate ordinances to ensure that scenic values, including the natural appearance of view sheds and ridgelines, are protected adequately.
13. Acquisition of land, easements, or development rights by a public entity or nonprofit conservation organization is an appropriate method to protect important resources or to provide public access for recreation.
14. Owners of valuable agricultural and forest lands should contact the County Forester or the Bennington County Conservation District to become informed of the Vermont Current Use Program and encouraged to participate in that program.
15. The BCRC should continue to participate in cooperative planning for regional water resources. Such projects may consider issues related to environmental quality, public health, recreational use and public access, fish and wildlife habitat, and aesthetic values, and should involve representatives of town governments (in the region and in neighboring regions and states, as appropriate), special interest groups, and other interested persons.
16. The BCRC should compile a resource manual for municipalities that contains model bylaws that will aid in the protection of important surface waters and aquifers and groundwater recharge areas.

17. Efforts to acquire important shoreline and public access areas in rural areas should be supported, as should improvement projects (such as riverfront parks and building renovation and reuse) along waterways in urban and village areas.
18. The BCRC should participate in environmental reviews of developments that could have regional air quality impacts.
19. The BCRC should work with towns, perhaps through conservation commissions, for the identification of regionally significant agricultural and forest lands, and the implementation of suitable preservation strategies.
20. If a town is interested in using a creative technique such as a transferable development rights zoning system to direct growth in a certain way, the BCRC should help that town with a pilot project that could serve as a model for other towns.
21. BCRC will continue to support acquisition of important forest lands by the U.S. Forest Service. Acquisition of development rights provides an alternative to fee ownership.
22. The BCRC should prepare background information and model regulations to be used by municipalities to support the protection of agricultural lands, scenic uplands, and other important open space areas. The BCRC has worked with the Town of Bennington to develop such provisions, which have been adopted as permanent amendments to the Town's Land Use and Development Regulations.
23. The BCRC should compile an index of characteristics of key wildlife habitats to help local planning commissions and conservation commissions.
24. Construction of ponds is strongly discouraged, unless fed by groundwater and/or overland drainage, or is essential for fire protection. In-stream ponds are discouraged on all streams that support fish life. In cases where feasible alternatives do not exist, in-stream ponds on seasonal streams, or off-stream ponds that discharge directly into a stream may be acceptable provided that the pond waters do not violate Vermont Water Quality Standards.
25. Development should be designed and sited in a manner to preserve contiguous areas of active or potential wildlife habitat. Fragmentation of significant and necessary wildlife habitat is discouraged.
26. Large contiguous tracts of forests should be managed so as to maintain the diversity of age and species of tree cover necessary for shelter and food supply for deer, bear, and other large mammals and birds. Uneven age management of forest areas is encouraged in order to enhance or maintain the quality of the resource.
27. It is in the region's interest to conserve large tracts of bear habitat whenever possible and to adopt cluster land use concepts in zoning bylaws as a mechanism for maintaining contiguous forest cover. Undeveloped buffer zones should be maintained around identified critical bear habitats.
28. Encourage Federal, State, and local acquisition of land and facilities well suited for outdoor recreation, provided that the adequate financial and management arrangements are made with involved governments.

29. The Regional Commission encourages towns that have not already established Conservation Commissions to do so.
30. Outdoor lighting shall be kept to the minimum required for safety, security, and the intended use, consistent with the planning/zoning district in which it is located. This is also consistent with energy conservation policy. Lighting for larger projects or for buildings or structures that have special symbolic or have special security needs shall be based on a lighting plan prepared by an experienced or qualified professional. Lighting standards from publications referenced in this chapter can serve as the basis for lighting plans.

## VII. LAND USE

It is important for a region to have an overall land use plan to guide future growth. A regional land use plan provides municipalities with a framework within which to develop their own plans and bylaws. While each town will develop an individual land use plan that reflects the goals and objectives of that community, adherence to a general regional plan ensures that such planning occurs in a coordinated fashion and that municipal plans are compatible with one another.

Future development should be concentrated in and around growth centers (Appendix B-8); that is, the urban centers and villages in the region. These centers of development and activity should be surrounded by a rural landscape of farmlands, forests, and small rural residential communities. Moreover, the demarcation between growth centers and the rural environment should be quite distinct. Growth Centers require careful delineation to accommodate future growth while protecting the values of the rural countryside. If development is allowed to sprawl outward from urban areas and villages the intervening open lands will eventually disappear and the region will have lost much of its distinctive rural character and appeal. Such a pattern of sprawling development would also reduce the ability of towns to provide efficient and economical services and would waste energy resources. The land use plan, therefore, directs new growth to urban and village areas and allows the type of development in rural areas that will not prove costly to municipalities nor detract from the region's rural character.

Some parts of the region demand special attention in land use planning. For example, careful consideration must be given to historic sites and structures, particularly those that lie at the core of many villages and hamlets. These historic districts are important to the region's architectural heritage and economic welfare, and land use planning and public investments should seek to maintain their value. Similarly, the extensive remote and mountainous areas in Bennington County help define the region's character and provide us with many valuable natural resources and economic assets. Permanent development in these areas is inappropriate. Land use plans should identify how the natural resources should be protected and used.

By identifying the desired characteristics of each planning area, and by understanding the opportunities and limitations unique to each of them, a cohesive regional land use plan can be maintained. The text of this chapter, therefore, is divided into sections corresponding to each planning district as depicted on the regional land use map (Appendix A).

### **7.1 Urban Centers**

The region's two urban centers include the areas in and around Bennington's central business district and Manchester Center. Both contain extensive commercial areas that offer a broad range of goods and services to a multi-town customer base. These areas are served by public water systems as well as municipal sewage treatment facilities; this infrastructure allows for greater concentrations of residential and commercial/industrial development than is possible elsewhere in Bennington County. As population centers and shire towns, both Bennington and Manchester are home to relatively large local governments and to a variety of public facilities and services.

At the same time, the two towns seem to have as many differences as similarities. Bennington has a much larger year-round population; Manchester has many more seasonal residents. Bennington's economy has relied more on manufacturing industries and seeks to expand this segment. In Manchester, tourism and

related retail businesses are dominant economic activities. Consequently, many stores in Manchester are corporate outlets that cater to people who travel to the town from far outside the region, while more of Bennington's stores are locally owned and principally serve the needs of people living in the region. Commercial development along the main roads just outside of Manchester Center consists largely of motels and restaurants. Commercial development outside the downtown area in Bennington (e.g., Northside Drive) is characterized by convenience stores, restaurants, automobile service stations, and shopping plazas with department stores, grocery stores, and similar uses. Therefore, while the general development concepts and policies presented herein apply to the centers of both Bennington and Manchester because of their similarities and the common role they play as regional hubs of growth and development, recognition must also be given to the differences between them. Each of these areas also contains special designations. Within the former Village of Bennington (merged with the Town) there is an historic district and design review district as well as a special taxing district to protect historic qualities and to promote economic vitality. In addition, Bennington's downtown is officially designated under the Vermont Downtown Program. Development in other commercially zoned areas of Bennington must adhere to specific design guidelines. Manchester Center and Manchester Village have both design review and historic district designations focusing on historic preservation and building/site design appearance.

Regulatory tools, public investments in infrastructure, special planning studies, historic/design review districts, special taxing districts, and promotion of private initiatives can all be used to encourage the development and/or redevelopment of urban centers. These efforts should be used to ensure that the urban centers contain a variety of commercial uses, professional services, and community facilities that provide a broad range of goods, services, cultural activities, and employment opportunities. Industrial facilities that contribute to a diverse and stable economic base should be sited in locally designated zones in the urban centers. A variety of residential uses should also be present in urban centers. Opportunities for housing should be available in single and multi-family buildings, with densities from three to twenty units per acre (or more in parts of Bennington) being appropriate based upon development patterns, neighborhood character, and infrastructure capacity.

Shopping centers<sup>1</sup>, a form of commercial development that has become quite prevalent in and around urban centers, deserve special attention in the Regional Plan. Different types and sizes of shopping centers are appropriate in different planning areas; convenience shopping centers, community shopping centers, and regional shopping centers may all be located in urban centers, provided that they are designed in accordance with the provisions of this Plan and applicable local plans and bylaws. Shopping centers draw customers from a regional market and can exert profound impacts by increasing traffic flow, spawning additional commercial development on surrounding lands, and by changing the essential character of neighborhoods. A large shopping center, or cluster of shopping centers, also can damage the vibrancy of existing commercial areas in the same or in neighboring towns. Care must therefore be taken in the siting and design of new shopping centers. New shopping center development should be used to

---

<sup>1</sup> A shopping center may include one or multiple stores, in single or multiple ownership, that function together as one integrated complex. For the purposes of this Plan, the following definitions apply:

- \* Convenience shopping center: provides for the sale of daily living needs and convenience goods, such as food, drugs, clothing, hardware, and certain service businesses (e.g., laundries, hair salons, banks, bicycle repair shops). Size – gross leasable floor area from 10,000 to 30,000 square feet.
- \* Community shopping center: provides for the sale of a broad range of goods (food, clothing, furniture and appliances, sporting goods, etc.) and personal and professional services, and may also include a movie theater and a large grocery store or discount department store. Size – gross leasable area from 30,001 to 300,000 square feet.
- \* Regional shopping center (shopping mall): provides a wide variety of merchandise and services (similar to but larger and more extensive than a community shopping center), usually built around one or more full line (anchor) department stores. Size – gross leasable floor area over 300,000 square feet.

reinvigorate existing commercial areas rather than to establish new ones. Occupancy of existing vacant structures, with appropriate rehabilitation, is preferable to construction of new commercial space.

A principal objective of this Plan is to promote the economic vitality of historic downtown urban centers. The Bennington and Manchester urban centers offer a number of opportunities for creative actions that can make shopping and living downtown more desirable. The adaptive reuse of buildings (converting an old mill into retail space and apartments, for example) and the development of riverfront parks are two ways to use existing resources to provide needed facilities while enhancing the attractiveness of the urban centers. Historic preservation and design control regulations may be enacted by towns to ensure the retention of the unique character of important districts and individual buildings. It may also be appropriate for towns to provide for planned unit and mixed-use developments in their urban centers; such regulations permit flexibility in the application of zoning restrictions if a development furthers certain community goals and provides public amenities. Mixed uses can allow for residential uses in upper stories if commercial space is difficult to lease. Downtown improvement districts, financed by special assessments on businesses within the district, can collect funds and use them to develop or improve public open spaces, parking lots, roads, sidewalks, store fronts, street lighting, and other revitalization projects deemed appropriate by the town. In fact, each of these techniques has been used to some extent in both Bennington and Manchester. Such innovative planning should be encouraged as an effective way to promote the full use and appreciation of urban centers, in support of the regional development concept. Local Development Corporations, such as the Better Bennington Corporation, provide a vehicle for various types of services and downtown improvements from marketing to real estate development.

### **Shopping Centers and Creating Place:**

Retail businesses in Bennington are located in the historic downtown core and shopping plazas and stores along Route 7A (Northside Drive) and Kocher Drive. Bennington's shopping centers include the Home Depot plaza, Hannaford Plaza, Monument (Wal-Mart and Price Chopper) Plaza, and Bennington Square (K-Mart-JC Penney- Staples.). These shopping centers are designed to be primarily accessible by auto travel and include large parking areas that are not interconnected with adjacent uses and which do not allow for easy access or safe movement by pedestrians. These standardized buildings surrounded by asphalt serve a purpose, but lack the "sense of place" that makes downtowns so unique and important to communities. It is possible to improve these discrete roadside businesses and establish them as a complementary regional center. Bennington's Planned Commercial District and associated design guidelines contained in the Land Use and Development Regulations represents an attempt to effect such a transformation over time. Further efforts should include enhancing connections to the downtown through a pathway system and improved public transportation.

### **Big Box Retail:**

Big box (large scale) retail facilities are large warehouse style buildings that range in size from 50,000 to 200,000 square feet. Although big box developments provide jobs and offer consumers choices and low prices, potential negative impacts include relatively low wages and benefits and the loss of smaller businesses in the community. Other important issues include affects on community character, architecture, scale, consumption of available commercial land, traffic, and environmental impacts. Consequently, such developments should only be allowed if deemed in the best interest of the community after completion and consideration of a comprehensive economic/community impact study (as currently required in Bennington).

## 7.2 Villages

The villages within the Bennington region are particularly important planning areas because they serve as a key element for structuring new growth and development outside of the urban centers. Villages offer many goods and services for local residents, present opportunities for local businesses and employment, and provide rural towns with a sense of place. Many villages are also important historically and contribute to the aesthetic appeal of the entire region. Characteristics of villages include a mix of commercial and moderately dense residential development, community facilities (church, school, post office, town hall, etc.), and perhaps some industrial development. A public water supply and a modest network of paved roads are also present in most villages in the area. Examples of villages in the Bennington region include: Dorset, East Dorset, Arlington and East Arlington, South Shaftsbury, Pownal, Manchester Village, Old Bennington, and North Bennington (the village centers in Manchester and Bennington overlap with elements of adjacent urban centers).

Towns should consider existing villages and surrounding areas as suitable locations for new growth. Development in and around villages reinforces historical settlement patterns, is economically efficient, and reduces the amount of less desirable growth scattered through the countryside. Maintenance and improvement of the infrastructure that serves villages is important so that growth can be accommodated with minimal environmental or financial costs to the community. Planning for these areas should encourage a variety of residential and commercial/industrial uses, but at a significantly smaller scale than in urban centers. Residential development in villages should be permitted, for instance, at densities of one to three units per acre depending upon the availability of adequate infrastructure and soil conditions. Likewise, carefully designed and planned convenience shopping centers may be appropriate in villages, but community and regional shopping centers must not be sited in villages.

Several difficulties typify planning for growth and development in village areas, however. Although towns may want to encourage growth in and around villages, environmental conditions and limited infrastructure capacity often present severe stumbling blocks. Villages may also be concerned that excessive village development will detract from both the character and function of traditional villages. For these reasons, the intensity and extent of development in village areas must be carefully managed. Towns should assess the growth potential of villages, determine whether suitable areas for expansion can be found in and around existing village districts, and evaluate the appropriateness and feasibility of increasing the capacity or geographical extent of public water, sewer, and road systems. Vermont's Downtown Program now provides for designation of village centers, affording benefits to enhance the vitality of those areas and encourage full use of existing and historic properties.

In addition to, or as an alternative to, further development of existing villages, some towns may want to consider establishing new village areas. Prior to promoting concentrated village-type development in a rural area, towns should consider factors such as proximity to existing neighborhoods, the adequacy of roadways in the vicinity, soil conditions, and water supply potential. In some situations it may be appropriate to encourage additional growth around existing small rural villages or hamlets. Zoning regulations, which may include provisions for site plan review, performance standards, and historic preservation, must be written to help encourage appropriate growth within villages while ensuring that these areas retain their scale and unique character.

### **Pownal Race Track:**

The old Green Mountain Race Track, located on a large tract of level land adjacent to Pownal Village and the Hoosic River, presents some unique planning challenges. The property has not been regularly used for a number of years and contains a large number of dilapidated structures as well as the large grandstand building. Several ideas for re-use of the property have been advanced in recent years, the most recent involving a mix of residential and commercial uses. Any redevelopment of the property should be accomplished in a manner that enhances the environment and does not adversely impact neighboring residential areas or Bennington's commercial center and downtown. The Track property should be considered as an extension of the Pownal Village area that can accommodate a moderate level of residential development as well as planned commercial or light industrial uses at a scale appropriate for a growing village area.

### **7.3 Development in Rural Areas**

While concentrations of new development should be directed to established growth centers, some development has occurred, and will continue to occur, in rural areas outside of villages and urban centers. Such growth must be planned to avoid impacts on the region's rural character, environmental quality, and excessive costs to municipalities. Historically, rural homesteads were established in conjunction with farms, sawmills, or other land-based family businesses. In addition, small settlements sprang up at many rural crossroads and other locally convenient sites. These hamlets consisted of a small cluster of homes and perhaps a school, church, store, or some other public building. Many rural hamlets are still evident today. These areas are important as focal points for local communities and contribute to the diversity of the rural landscape. For the most part, hamlets have no public water supply or sewage disposal systems, and most of the buildings are located along one or two roads. Examples of hamlets in the Bennington region include: Rupert, West Rupert, South Dorset, Peru, Landgrove, Sandgate, Richville and Barnumville (in Manchester), West Arlington, Center Shaftsbury, North Pownal, and Stamford.

In recent decades, residential subdivisions have created new concentrations of settlement in rural areas. These developments are generally entirely residential, with self-contained road networks and on-site wells and septic systems (some subdivisions, particularly those with multi-family or clustered units, may have community water supplies and wastewater disposal systems). Subdivisions in the region range in size from a few to several dozen lots, and may consist of single-family homes on lots of one to ten or more acres, clustered single-family homes on smaller lots, or multi-family condominiums. A few examples of the many rural subdivisions in the region include: Dorset Orchard (Dorset), Bromley Brook Woods and Eagle Rise (Manchester), Wilcox Road (Arlington), the several Sunderland Hill and Bacon Hollow developments (Sunderland), and Hidden Valley (Shaftsbury). Subdivisions must be carefully planned to provide a desirable living environment for residents, and to ensure that the rural character and natural resources of the area are protected. In areas that have extensive or concentrated natural resources, including important agricultural land, proposals for residential developments must retain the integrity of those resources.

Municipal bylaws should ensure that development in rural areas reflects historical settlement patterns. Scattered development in remote areas with poor access to town centers must be avoided. New subdivisions must incorporate the positive characteristics of earlier rural settlements: a community identity, public open spaces, preservation of economically important resources (such as agricultural soils), and so on. Many of these objectives can be realized by clustering lots to create a hamlet-type character around the homes, while setting a significant percentage of the project area aside as open space reserved for agriculture, forestry, or public recreation. Such developments also are economically efficient because roads and other infrastructure need not be as extensive or costly to construct and maintain.

Agriculture, forestry, recreation, and other land uses that rely on the region's natural resources are appropriate uses in rural areas. Certain small-scale industries, especially those related to the region's agricultural and forest resources (e.g., dairy products, saw mills), may be compatible with, and most appropriate in, outlying rural areas. Properly planned residential development may be accommodated at overall densities of one to two acres per dwelling unit in valley areas where there are few physical or economic impediments to growth. Residential densities of three to twenty-five acres per dwelling unit are appropriate in rural areas that are more remote, are at high elevations or have other physical limitations, or which lie in agricultural zones (where clustered development to preserve open land also may be appropriate). Rural developments also must comply with local and state regulations pertaining to water supply and wastewater disposal to ensure protection of public health and the environment. In any event, rural development must not be widely scattered throughout the countryside, but should occur as relatively compact and cohesive units that serve to reinforce, rather than to replace, the region's rural character.

A limited amount of commercial development, properly planned and sited, can also be accommodated in rural areas. The "country store" is, after all, a characteristic feature of rural Vermont. Although shopping centers (as defined in this chapter) are clearly not appropriate outside of villages or urban centers, small general stores, service stations, and similar uses that provide goods and services for nearby residents may be located in rural areas. These businesses should be sited only in hamlets or as part of rural planned unit developments. Towns should limit the number and size of such establishments to prevent a proliferation of scattered commercial development that does not serve the needs of the community. Occupations that are customarily practiced in residential areas, and which do not affect the character of those areas, are another form of small-scale commercial use common in rural areas. Small professional offices, antique shops, and craft studios are examples of customary home occupations. Such businesses are protected by state law, and most municipal zoning bylaws clearly define the parameters within which they may operate.

In the past, more extensive commercial development was planned for and sited in certain rural areas that lie alongside principal state highways. These areas are found in "roadside commercial" zoning districts that were established specifically in response to a perceived need to cater to an automobile oriented lifestyle and to tourists traveling by car. . The area along Route 11/30 east of Manchester Depot is the most developed such roadside commercial district in the region. Towns should not pursue new roadside commercial designations because additional development in these areas would negatively impact the economic vitality of commercial areas in nearby villages or urban centers. Moreover, towns should include standards that will ensure that existing roadside commercial areas do not deteriorate into unsafe or unsightly "strip" developments. Town plans and zoning bylaws should place special emphasis on coordinating development in these areas. Roadside commercial uses should be avoided along sections of highway that have low sufficiency ratings because of poor visibility, steep grades, poor alignment, or other factors. Development standards should include provisions for adequate and efficient vehicular parking, ingress, and egress; location of parking lots (preferably to the rear or side of buildings); minimum lot size and road frontage; building siting and design; restrictions on signs, lighting, and other site structures; and landscaping.

Ski area development is another form of rural development that is important in the Bennington region. During the winter months, many people are drawn to the region to take advantage of the snow-covered mountain slopes and woodland trails. One major alpine skiing center – Bromley Mountain – is located in the Town of Peru. A smaller, former alpine center (Prospect Mountain in Woodford) and three nordic touring centers (Prospect Mountain in Woodford, Wild Wings in Peru, and Hildene in Manchester) are

also located in the region. The Merck Forest and Education Center in Rupert provides a range of year-round activities. These developments are appropriate and economically important land uses in rural areas. Small accessory commercial and residential uses (e.g., ski shops, snack bars, lodging facilities) complement the principal recreational use of the sites. A relatively large downhill skiing center such as Bromley Mountain, being a destination resort, must contain a larger and more diverse array of accessory land uses. Year-round uses at such resorts generate additional revenue to support capital projects and employ people to manage the enterprise. These alternative activities (mountain biking, downhill slides, motorized rentals, sporting events, etc.) can enhance economic vitality for the resort and the region. Such activities must be carefully planned, sited, and designed to fit into and complement the natural and built landscape. Large improvements and infrastructure more typical of amusement parks and out of context with the area should be avoided. Hotels, restaurants, vacation condominiums, and a number of retail stores either exist or are planned for the ski village area. The Town of Peru has been working with the resort to ensure that growth at the mountain is accomplished in accordance with the objectives of their Town Plan. Because such a level of development in rural areas can exert wide-ranging effects on regional land use and development, emphasis should remain on the expansion of existing alpine ski areas in the region, rather than the establishment of new ones. Cross-country skiing centers, with a moderate amount of accessory commercial activity, represent an economically viable means of maintaining rural open lands for public recreational use, and should be encouraged.

#### **7.4 Historic Preservation**

Mention has been made in this and in previous chapters of the importance of preserving the region's historic, archeological, and cultural resources. The town centers, villages, and hamlets in the Bennington region contain numerous historic structures that reflect the rich history and architectural heritage of those communities. Several historic village centers in the region – Dorset, Manchester Village, Old Bennington, Bennington, North Bennington, and Arlington – have achieved special recognition by being placed on the National Register of Historic Places. In addition, many historically significant structures are found throughout the countryside. Preservation of the region's historic resources has many benefits. The area's historic rural character, in large part attributable to those early structures, attracts vacationers to the area thereby providing a valuable source of revenue and employment. The unique historic character of each town also provides residents with an important sense of their heritage and a link with the past, thus promoting a sense of community identity and pride.

An important first step in any effort to preserve historic resources is to identify those resources. Fortunately, the Vermont Division for Historic Preservation, together with local residents and historical societies, has completed comprehensive inventories of historic and archaeological sites and districts in the region. These inventories document historical and architecturally significant structures in areas such as Old Bennington, North Bennington, downtown Bennington, the Village of Arlington, Manchester Village, and Dorset Village as well as in other areas in each town in the region. Towns may wish to expand upon or refine these inventories so that they better serve local planning purposes.

Regulatory tools can help towns preserve historic resources. The Vermont Legislature, in 1986, passed the "Townscape Preservation Act" which enables towns to protect their historic resources by designating historic districts and landmarks under their municipal zoning regulations. When an historic district regulation is in place, approval of the municipality is required prior to the erection of any new structure within the district and before any modifications are made to the exterior appearance of a structure within the district. The municipality also would be able to review plans involving the demolition or movement of an historic structure. Design control districts, which may be created to give towns some control over

the appearance of discrete areas of historical, architectural, or cultural significance, or other areas in which there is a concentration of community interest, can also be used to preserve historic resources. A design review board may be created to assist the local planning commission or development review board in evaluating design proposals for new or altered buildings in those districts. The Villages of Old Bennington, North Bennington, and Manchester, and Bennington, Dorset, and the Town of Manchester, currently have design control ordinances in effect. Conditional use and performance standard provisions of municipal zoning bylaws can include requirements pertaining to the siting and design of buildings. Finally, municipalities may have input on aesthetic aspects of major development projects under Criterion #8 of Act 250.

Nonregulatory approaches to historic preservation are of equal importance. Local historical societies should continue the research, documentation, education, and advocacy efforts that they have pursued in their communities. Developers should be encouraged to incorporate historic structures and important architectural details into their project planning. The adaptive reuse of old buildings that no longer serve their original function is often preferable to the destruction and replacement of those buildings. There also may be opportunities for small historic preservation grants and investment tax credits for people who wish to rehabilitate historic structures. Public acquisition and use of particularly important historic buildings may be appropriate when new or expanded public facilities are needed.

In summary, the goals of any historic preservation program should be:

- \* To maintain a community's special historical and cultural heritage and preserve a sense of place and pride for the town's residents.
- \* To maintain those historic and aesthetic qualities which are economic assets to the community.
- \* To assure that the renovation and alteration of existing structures, and the construction of new buildings, is done in a manner consistent with the character of the historic districts in which they are located.
- \* To achieve overall visual compatibility within each district through careful attention to architectural, landscape, and site structure details.
- \* To prevent poor forest management practices and clear cutting unless clearings are part of a management objective such as restoring and improving diversity and habitat.
- \* To assure potential archaeology sites are considered when digging, landscaping, quarrying, or otherwise impacting on properties that fit models of such sites.

## **7.5 Upland Forests**

The 'Upland Forests' comprise the most extensive planning area in the Bennington region. This area includes the remote and rugged lands of the Green and Taconic Mountains, as well as isolated valleys such as Black Hole Hollow in Arlington; essentially all of the land outside of villages, urban centers, and rural valleys (Figure 7-1). In total extent, upland forests cover approximately 266,500 acres, or 72 percent of the region's land area. Most towns in the region have zoned these areas as "Forest" or "Forest and Recreation" districts where most permanent development is either prohibited or allowed only in certain areas on very large lots with strict environmental controls. Such stringent regulations are

attributable to the conditions characteristic of upland forests. Steep slopes often in excess of 20 percent predominate, year-round roads and permanent structures designed for sustained use are largely absent, and population centers and public services are quite distant. Lands 2500 feet or more above sea level (all of which are included in the upland forest planning area) demand special attention. In addition to the limiting characteristics noted above, lands at such high elevations are very fragile because of a relatively cold and moist climate, shallow, poorly drained, and easily erodable soils, and the presence of delicate ecological communities. Although presenting many limitations to development, upland forests provide us with many tangible benefits that must be protected.

Natural resource conservation and management are preferable to the development of permanent improvements and structures in upland forests. Conservation of the upland forests serves to support the following regional and local objectives:

- \* Protection of important ground water recharge areas and sources of clean surface waters.
- \* Protection against soil erosion and downstream flooding.
- \* Maintenance of the forest resource for silviculture and recreational use.
- \* Preservation of natural beauty and rural character.
- \* Preservation of long-abandoned historic and archaeological remains and sites (cellar holes, mill seats, charcoal and lime kilns, etc.) that still remain in our forested areas.
- \* Prevention of costly and poorly planned scattered growth.

Of course, many activities are appropriate in upland forests. Economically important forestry practices such as logging and maple sugaring are natural ways to derive benefits from these areas. Because of the potential for environmental damage when working in upland forests, it is particularly important for loggers to abide by the acceptable management practices (AMPs) prepared by the Vermont Department of Forests, Parks, and Recreation. Numerous outdoor recreational activities benefit from the region's extensive upland forest areas. Hiking, camping, hunting, camps for hunting or other occasional use, cross-country skiing, snowmobiling, and horseback riding are representative of the recreational activities that are appropriate in upland forests. Limited commercial natural resource based recreation facilities (e.g., campgrounds, cross-country ski centers) may be appropriate in areas with adequate existing access roads. The economic importance of the upland forests is further evidenced by the many vacationers who are attracted to the region by the abundant opportunities for such recreation. Caution must be exercised, however, in those areas located above 2500 feet in elevation; large group camping areas, all-terrain vehicle (ATV) use, and similar activities that would easily damage this fragile environment must be avoided. Certain important public facilities – wind energy generating stations, for example – may be sited in upland forests in appropriate locations and with proper environmental controls. Such facilities will, by their nature, be visible over a wide area, so planning studies should be undertaken to ascertain locations that are both economically viable and which are acceptable to residents of the region. The growth in cellular/wireless communication towers or facilities is discussed in greater depth in a subsequent chapter. A modern and state-of-the-art telecommunication system is an essential economic resource for the region. However, its development should be in accordance with an overall plan to avoid an excessive number of towers as industries compete for a growing market.

No discussion of the region's upland forests would be complete without mentioning the Green Mountain National Forest. A large percentage of land in the Green Mountains is owned and managed by the United States Forest Service. These lands are maintained and managed for the public's use and enjoyment. Forest management plans for the Green Mountain National Forest stress multiple uses of upland forest areas: timber production, wildlife habitat, wilderness preservation, and recreational uses are all important elements in these plans. The Forest Service recently completed an update to the Land and Resource Management Plan, which will guide management for the next 10-15 years. The regional office of the Forest Service wishes to work cooperatively with town officials and the BCRC in developing management plans and identifying parcels suitable for acquisition.

## **7.6 From Sprawl to Smart Growth**

Sprawl exists in Vermont in many forms. Large-lot developments with low average densities are common due to consumer choice and sewage standards that historically promoted 10-plus acre lots. This type of development results in the fragmentation of open space, loss of natural resources, dispersed communities, and inefficient transportation systems. The Vermont Forum on Sprawl and similar organizations and programs seek to provide tools that municipalities can use to curb sprawl. Solutions and approaches will vary depending on the particular issues in any given community. One tool a community can utilize is a self examination "smart growth report card" (Appendix B-9). The Regional Commission is committed to prevention of sprawl and will assist towns that want to develop effective policies/regulations that will promote concentrated growth within growth centers while maintaining rural open lands between these centers. The BCRC should participate in state land use hearings to support developments that reflect smart growth principles and oppose or seek modifications to projects that promote sprawl.

## **7.7 Policies and Actions**

1. New development should be concentrated within growth centers; scattered development that is remote and has little relationship to existing settlement patterns should be avoided. Distinctive edges between urban and village centers and rural countryside become obscured with the advent of sprawl. Municipal plans and zoning should strive to retain a clear boundary between the urban/village areas and countryside.
2. A variety of residential, commercial, industrial, and cultural and recreational uses, at relatively high densities, is appropriate and encouraged in urban centers. Public investments in infrastructure and public services, and private development activities, should seek to support the development or redevelopment of established urban centers rather than the creation of new concentrations of development. Development from urban centers must not sprawl into surrounding rural areas.
3. A variety of residential, commercial, industrial, and cultural and recreational uses is appropriate in villages, but at a significantly smaller scale and lower density than in urban centers. Public investments and private initiatives should support growth in existing or planned village areas. New development should respect the small scale and historic character of existing village development.
4. In rural areas, emphasis should be placed on the conservation and use of natural resources and the avoidance of costly scattered development that is disruptive of the region's rural character. Low-density residential, commercial (small general/convenience stores, home occupations) and compatible recreational uses are also appropriate in rural areas. Planned commercial or mixed uses within existing roadside commercial zoning districts must be carefully planned to avoid the

appearance of sprawl, traffic congestion, or safety concerns. Roadside commercial areas should not be expanded and should be retracted when feasible and appropriate. Development should reflect historic settlement patterns and preserve important resources, such as productive agricultural soils. Creative land use techniques should be used to retain the integrity of special natural resources.

5. The development of permanent improvements and structures for year-round use is inappropriate in upland forest areas (although certain important public service facilities may be permitted with proper controls). The conservation and wise use of natural resources in upland forests should be emphasized; forestry and outdoor recreation are appropriate activities in these areas. Special care must be exercised in areas where the elevation exceeds 2500 feet, because of the fragility of the environment. Acquisition of important upland forest parcels by the United States Forest Service is encouraged.
6. Important historic sites, structures, districts, and archaeological sites should be preserved. New development in historic areas should be architecturally compatible with its surroundings. The adaptive reuse of historic buildings is encouraged, and renovation work should maintain the architectural integrity of historic structures.
7. The following policies apply to new residential development:
  - The density of development must not exceed the amount that the land is physically capable of supporting (natural conditions, intensity of use, location, and provision of services).
  - Residential development must be carefully planned in areas where predominant natural slopes exceed 15 percent; residential development should not be permitted where slopes are 20 percent or greater.
  - Residential projects need to carefully integrate and utilize open space planning techniques.
  - During construction, all necessary measures should be taken to minimize soil erosion.
  - Natural vegetation, landscape features, and historic landmarks should be preserved to the greatest extent possible and incorporated in the development design. Streams, ponds, and wetlands should be maintained in their natural state, and access to these and other open spaces should be provided for residents.
  - Residential development should utilize cluster design techniques, and in appropriate situations a more traditional street grid should be used to enhance vehicular and pedestrian connections. Subdivisions should be linked to neighboring developments where possible via roads, trails, and common open space. An efficient utility network should be included
  - Prior to any large-scale residential development, a road system capable of handling traffic in a safe and efficient manner must either exist or be planned for immediate construction.
  - The road system should be designed to accommodate the intended uses in a safe manner taking into consideration vehicle type, pedestrians, cyclists, and the streetscape.
  - Development which exceeds a town's planned growth rate, or which causes substantial economic

hardship to a town because of the increased demand for facilities and services, is inappropriate and shall not be permitted.

- An evaluation of forest resources should be required in forested areas when subdivided parcels are 20 acres or more.

8. The following policies apply to new commercial development:

- The intensity of commercial development needs to be consistent with the character of the land and surrounding area. In the case of shopping centers, small convenience shopping centers, reflecting the character of the surrounding community, are appropriate in villages, and urban centers may contain convenience, community, or regional shopping centers (see definitions in this chapter), but shopping centers are not appropriate in rural areas.
- Shopping Centers/Creating Place: Improve the diversity and connectivity of these discrete commercial nodes into a complementary and attractive business center to strengthen the region's Urban Centers. Encourage public/private partnerships to develop creative implementation strategies to ensure the vitality of all commercial centers. Require careful planning to ensure the centers do not detract from existing commercial areas or appear out of character with the community.
- Big box retail stores may only be permitted in urban centers provided they exhibit exemplary architectural and site design and are shown to be in the best interest of the community after completion of a comprehensive economic/community impact study. Projects should also provide for: mix and balance of uses; site optimization including compact building groupings with parking located behind buildings, use of architectural design to complement the streetscape; and transportation facilities to accommodate and encourage access via public transportation, bicycling, sidewalks, and pedestrian pathways. Efforts must be made to minimize adverse impacts on existing highway operations and safety.
- Commercial developments need to include an architectural and landscape design plan that complements the surrounding environment.
- Space and amenities for public use (e.g., pedestrian walkways/paths, landscaped areas with benches, bike racks, restrooms) should be provided or required as conditions warrant.
- The amount of noise, glare, and lighting observable from off-site locations must be minimized.
- Adequate parking and loading spaces must be screened or effectively landscaped to improve aesthetics, especially from streets or neighboring residential areas.
- Provide for safe and efficient vehicular ingress and egress. Access onto roads where steep grades exist or within 400 feet of a major intersection should be avoided. Adjacent commercial developments should use combined cuts and connect parking lots internally whenever possible.
- Safe and convenient facilities for pedestrian access and circulation shall be provided.
- Commercial uses that generate large numbers of traffic turning movements must be avoided along

sections of highway with low sufficiency ratings, unless located within an established downtown.

9. The following policies apply to new industrial developments:

- Relatively large industrial developments need to be located in and near urban centers or in village areas where adequate supporting infrastructure exists.
- Two or more adjacent industrial uses should be designed as a coordinated industrial park; land within industrial parks should be used exclusively for industrial development.
- Utilities, roads, and other essential services should be available and adequate at the time of completion of the industrial development.
- Industrial parks should not be located in areas where truck or employee vehicle traffic would be channeled onto local streets in residential neighborhoods.
- The amount of noise, vibration, dust, odor, glare, and lighting that affects nearby residential areas must be minimized.
- Industrial development should provide meaningful well-paying jobs and should not pollute the environment. Industries that make use of locally available natural resources are encouraged.

10. The BCRC should continue to offer assistance to municipalities in the area of land use planning. Specific activities should include:

- Conduct workshops, prepare model bylaws, and undertake other educational projects dealing with creative planning techniques such as: cluster (open space) subdivision, agricultural land conservation, historic district ordinances, and performance standards for commercial and industrial developments.
- Work with towns to help delineate growth centers, and evaluate whether the capacity exists to allow for additional growth in villages or to establish new village centers.
- Cooperate with towns, the Bennington County Industrial Corporation, and other interested organizations in promoting new industrial development in the region consistent with the Regional Plan policies.
- Continue to work with the United States Forest Service and towns to develop forest management plans and establish criteria for identifying upland forest parcels that are appropriate for public acquisition and other areas that may utilize federal funds.
- Develop a more detailed regional land use map based on better geographic information. Prepare and distribute a composite region-wide zoning map; identify possible areas of disagreement or conflict among town land use plans.
- Offer assistance in promoting the development or redevelopment of historic "downtown" areas; planning for capital investments, preparation of creative land use regulations, assistance in planning for the adaptive reuse of buildings and the development of riverfront parks are potential

areas of involvement by the BCRC.

- Work to eliminate sprawl (scattered development outside settled urban and village centers). A community assessment tool prepared by the Vermont Forum on Sprawl “Smart Growth Card” is included in Appendix B-9. The region and municipalities must remain vigilant in testing our policies and actions if long-term goals are to be achieved.
- Work with municipalities, the regional development corporation, Chambers of Commerce, Regional Marketing Organization, downtown and other organizations on economic priorities and to further the goals and policies of the plan.

## **VIII. ENERGY**

Recent dramatic fluctuations in the prices of fuel oil and gasoline have vividly demonstrated that energy is a scarce resource that should be considered in any comprehensive planning process. Both the type and quantity of energy used have economic and environmental quality implications for the region. Various fuels – wood, oil, electricity, propane gas, and coal – are used for space heating in residential households. Commercial, industrial, and public and institutional buildings use either oil or electricity (and to a lesser extent propane gas and wood) for heating. All of these uses rely on electricity to power appliances, lights, machines, and other conveniences. Of course, personal and commercial cars and trucks are responsible for consumption of a great deal of gasoline. Each of these energy sources or forms presents certain concerns, problems, and opportunities. Many such issues were thoroughly addressed in the Regional Energy Plan adopted by the BCRC in 1982. The Regional Energy Plan should be updated to incorporate new consumption data, demand projections, and recent energy initiatives in Bennington County. The policy framework of that Plan is still relevant, however, and will form the basis for this chapter.

The ten basic energy goals identified in the Regional Energy Plan are certainly still applicable today. Some progress has been made toward the attainment of many of these goals, but a continuing commitment will ensure further progress toward promoting economic growth while maintaining environmental quality. The goals are as follows:

1. Assure a safe and reliable supply of energy to meet reasonable consumer needs.
2. Reduce the flow of energy dollars leaving the Bennington region by decreasing our reliance on non-local energy sources.
3. Reduce local per capita energy consumption while maintaining a desirable living and working environment.
4. Increase opportunities to make energy choices and decisions at the local level.
5. Make energy choices that maintain or improve environmental quality.
6. Encourage the development of renewable energy resources.
7. Assure diversity in the energy mix so as to mitigate the impacts of a supply restriction in any particular fuel.
8. Strive for the most efficient use of each energy source, matching the fuel to the end use.
9. Assure an equitable and affordable energy supply for consumers across all economic strata.
10. Stimulate public commitment to the above goals by formulating specific land use, transportation, economic development, and housing policies and strategies.

### **8.1 Energy Conservation**

Substantial economic savings can be realized through energy conservation. Every dollar not spent on energy is available for local investment and to meet other basic needs of residents. Of course, a reduction in energy usage also reduces the production of environmental pollutants. Energy conservation can be facilitated through effective land use planning, building standards and design, and improved transportation efficiency.

It is well established that effective land use planning can promote energy conservation. Development should be concentrated in growth centers, with new residential development convenient to commercial service and employment centers. The land use element of this Plan reflects these principles by prohibiting permanent development in remote forest areas, by discouraging scattered development in rural areas, and by providing for more intensive residential and commercial growth in designated villages and urban centers. The Plan also discourages capital expenditures on roads or other infrastructure that would tend to lead to scattered development. Compact development patterns will encourage non-motorized modes of transportation while reducing the number and length of automobile trips, truck deliveries, and the like.

The siting, design, and construction of buildings strongly influences the amount of energy required for heating and cooling, as well as the amount of electricity needed for lighting. Subdivision design, building orientation, and landscaping should provide maximum opportunities for passive solar heating, natural lighting, solar hot water heating systems, and photovoltaic electricity production. Similarly, buildings should be screened from winter's cold north winds and from excessive solar radiation in the summer. New buildings should be fully insulated and include energy efficient windows (e.g., "low-E" systems) and other conservation features. Programs to retrofit existing buildings with wall and ceiling insulation, caulking and weatherstripping, insulated hot water tanks, and efficient fluorescent light bulbs can significantly reduce energy usage in those buildings. Lowering thermostats in the evening and when buildings are unoccupied, turning off lights when they are not in use, and maintenance of furnaces are examples of actions taken at the individual level that can collectively make a noticeable contribution to energy conservation. Support should be given to programs, such as Efficiency Vermont, that promote any of these conservation measures.

Because gasoline used in transportation accounts for a large share of total energy usage in the region, considerable savings can be achieved through improved transportation efficiency. As noted above, a land use pattern that avoids scattered development promotes energy efficiency. Continuing improvements in vehicle design that improve fuel economy will also prove beneficial. Area businesses should be supported in efforts to organize ridesharing programs for employees, thereby further reducing vehicle trips. Development of pleasant pedestrian and bicycle trails and related facilities, particularly in urban centers and villages, will encourage people to leave their cars in the garage during local excursions. Finally, the rail lines that traverse the region should be maintained, and increased rail transportation should be promoted as a relatively energy efficient means of moving freight and passengers.

## **8.2 Electricity**

Electrical energy is important to virtually all residential, commercial, and industrial uses in the region. Electricity is a particularly convenient means of transporting and using energy that has been derived from one or more power generating stations. It should be noted, however, that the use of electricity for space heating is very inefficient relative to other technologies. Electrical energy should be used where it

functions more efficiently than other forms of energy (such as in the cases of lighting or the operation of motors).

A variety of fuels – nuclear (uranium), fossil fuels (coal, oil), solar radiation, wood, water, and wind – may be used to generate electricity. The Central Vermont Public Service Corporation (CVPS) owns and maintains the distribution facilities through which most of the region's electricity is supplied. CVPS obtains that electricity from a number of sources. The Vermont Yankee nuclear plant in Vernon supplies some of the region's electricity, while nuclear, coal, oil, and hydroelectric facilities from outside the state provide the rest. Because of uncertainties associated with the supplies and costs of each of these energy sources, it would seem prudent to obtain electricity from a diversity of sources and to pursue local generating options. The value of such a course of action is reinforced by the very real environmental concerns presented by nuclear (radioactive waste), fossil fuel (stack emissions, greenhouse gases, and acid precipitation), and large hydroelectric (destruction of natural riverine and terrestrial ecosystems) generating facilities.

Two projects have explored the possibilities of developing alternative electrical generating facilities in the region. Green Mountain Power Corporation (GMP) tested two wind energy turbines on Mt. Equinox in Manchester (after a failed attempt with older technology machines by another company). The GMP project has been designed to develop and test prototype wind turbines that will reliably generate electricity in the severe conditions that occur at high elevations in this northern climate. The turbines experienced problems due to severe weather conditions and icing. New technology has been developed that limits these problems. Little Equinox Mountain has been the home of various wind turbines since 1981. Most recently Endless Energy Corporation has pursued a potential wind energy project on the site. Improved technology, tax incentives, and “green” electric pricing will continue to position wind energy as an important renewable energy resource.

Another promising energy project that could be developed in the region using local natural resources is a wood energy plant utilizing a technology that involves processing wood chips to produce gas that in turn powers a jet turbine to create electricity. An adequate supply of wood exists in the region and surrounding area to provide fuel for this 20-megawatt facility. The resulting demand for low quality timber would also make efficient forest resource management more economically practical. Care must be taken in siting such a power plant because of potential impacts associated with noise and truck traffic, and in managing the forests that will provide the fuel for the plant. Nonetheless, if the technology can be perfected, such a facility could be an important contributor to the region's supply of electrical energy.

A number of other facilities can help satisfy portions of the region's electrical energy needs. Small local hydroelectric facilities may be appropriate at some sites in the region. Preferably, hydroelectric facilities should be located at existing dam sites to minimize new impoundments. Rivers and streams that support important fisheries and other recreational uses should not be dammed to create hydroelectric plants. Moreover, any hydroelectric project must be preceded by thorough environmental studies and designed to minimize ecological damage; in particular, run-of-river mode operations are preferred over store-and-release systems.

### **8.3 Policies and Actions**

1. All practical energy conservation measures should be taken during the siting, design, and construction or reconstruction of buildings; insulation standards recommended by the Department of

Public Service should be adhered to. Building designs that incorporate solar space and water heating systems and other innovative energy efficiency technologies are encouraged.

2. Commercial and industrial uses should include energy efficiency and conservation in their business plans and operating procedures.
3. Towns and school districts should include energy efficiency and conservation in their plans and day-to-day operations; building design and the purchase and use of equipment and vehicles should include considerations of energy efficiency.
4. Efforts to promote energy conservation in the transportation sector should be supported; effective land use planning, employer-organized ridesharing programs, and investments in pedestrian and bicycle trails and facilities can all encourage energy conservation.
5. Support should be given to organizations and programs that offer assistance in planning and financing energy conservation projects.
6. Electricity should be conserved as a high quality form of energy, and its use promoted only where it functions more efficiently than other types of energy (e.g., electricity is appropriate for lighting and the operation of motors).
7. Any wood energy plant must be carefully planned and sited to avoid impacts on residential areas and the natural environment. A forest management plan should be part of any such operation to ensure that the quality of the region's forest resource is not diminished.
8. Continuing support should be given to wind energy research and development in the region. A wind energy facility, consisting of a cluster of turbines, may be sited in a forested upland area (where winds are most conducive to power generation) that has been specifically identified through a collaborative process as appropriate for such use if the placement does not significantly detract from wilderness, recreational, or ecological values.
9. Small hydroelectric facilities may be appropriate in the region, particularly at existing dam sites, provided that existing uses and natural qualities of the streams are not damaged. Any hydroelectric facilities should operate under the run-of-river mode to avoid stream flow alteration.
10. The BCRC should update the Regional Energy Plan; the consumption profile and demand projection data should be revised, and current issues and strategies discussed in detail.

## IX. TRANSPORTATION

Safe, convenient, and economical transportation is essential to the people and economy of Bennington County. A variety of transportation modes exist in the region. A network of town and state roads and bridges serves through traffic, provides access to residential properties, and supports the area's various commercial and industrial interests. The Vermont Railway traverses the region from south to north providing opportunities for freight and passenger service. The W.H. Morse Airport in Bennington provides facilities for a variety of light aircraft uses. Public transportation providers operate fixed route and commuter bus services as well as "demand responsive" transportation for special needs residents. Not to be overlooked are the many sidewalks and pathways that provide travel routes for pedestrians in urban and village areas, between residential areas and schools and parks, and in other key locations. While each of these elements is important, most of the use and public expense is concentrated on the region's network of roads and bridges. Effective and efficient management of this infrastructure should therefore be a priority for the region. A thorough analysis of the region's transportation resources, issues, and needs is found in the Bennington Regional Transportation Plan.

### 9.1 Roads

The purpose of the region's network of roadways is to provide for the safe and efficient movement of people and goods while structuring future growth and development by providing access to the land. The mileage of local and state roads in the region is quite substantial (Table 9-1). The principal north-south travel route through the region is provided by Routes 7 and 7A. A number of state highways branch off from this central corridor and provide access to rural areas and villages to the east and west. Route 279, currently under construction, will greatly improve inter-town and inter-regional transportation while lessening congestion at several locations in Bennington. Town maintained road networks reach out to serve urban and village centers as well as residential and rural areas. Quite a number of recently constructed roads serving new residential developments remain privately owned and maintained. With the exception of a few minor roads that snake up into hollows and along streams, no roads are located in the region's mountainous upland areas. Figure 9-1 depicts town and state highways in the region.

The region's road system should be planned and managed in an effort to achieve a number of related objectives. New roads and substantial capital investments in existing roads should improve safety and minimize long-term maintenance costs while benefiting primarily urban and village centers and rural residential areas. Minimal public investments should be directed to roads serving remote and mountainous areas. A principal goal of roadway improvements is to correct existing deficiencies (e.g., poor sight distances, dangerous intersections, excessive grades, inadequate base, poor drainage, insufficient road or shoulder width, etc.). Roadway reconstruction and rehabilitation projects should seek to provide maximum benefits with minimal negative impacts by using, to the extent possible, existing highway alignments and by providing for amenities such as roadside plantings, sidewalks, and shoulders of sufficient width to accommodate bicyclists. Construction of new (public or private) roads should occur on land that is physically capable of supporting such construction, and such roads should be sited and planned so as to not adversely affect residential areas, parks and recreation areas, and important natural resources. Attainment of these objectives can be facilitated through coordination, comment, and review among the Agency of Transportation, municipalities, and the BCRC.

*Table 9-1*

Town and State Highway Mileage (2001) by Municipality  
for the Bennington Region

	Town Class 1	Town Class 2	Town Class 3	Town Class 4	State Highway	TOTAL*
Arlington	0	7.91	26.80	1.93	14.047	48.757
Bennington	3.850	11.49	81.14	3.85	19.924	116.408
Dorset	0	13.85	25.57	0	13.671	53.091
Glastenbury	0	0	0	1.61	1.784	1.784
Landgrove	0	4.82	9.55	1.50	0.821	15.191
Manchester	1.783	15.65	23.73	7.57	19.419	60.582
Peru	0	6.18	15.83	5.86	4.627	26.637
Pownal	0	11.85	50.41	9.08	12.684	74.944
Rupert	0	13.15	28.17	1.81	3.828	45.148
Sandgate	0	7.58	21.99	4.16	0	29.570
Shaftsbury	0	19.99	50.29	0.75	15.849	86.129
Stamford	0	2.03	16.09	6.51	5.752	23.872
Sunderland	0	15.17	14.16	1.68	11.369	40.699
Woodford	0	0	2.50	0	9.575	12.075
Man. Village	2.007	3.39	3.69	0	0	9.087
No.Benn.Vill.	1.667	0.08	7.28	0	0.402	9.429
Old Benn.Vil.	0.577	1.24	1.23	0.02	0	3.043
<b>TOTAL</b>	<b>9.884</b>	<b>134.38</b>	<b>378.43</b>	<b>46.33</b>	<b>133.752</b>	<b>656.446</b>

\* Total Traveled Highways (excludes Class 4 mileage)

SOURCE: Vermont Agency of Transportation, Planning Division

An appropriate balance among the four functional classes of roads—limited access, arterial, collector, and local—should be maintained. These four types of roadway are described below.

**Limited Access:**

The only limited access highways in the region are Route 7, from the center of Bennington to East Dorset, and Route 279, being constructed around Bennington. Interchanges are located in Bennington (2), Northern Bennington/South Shaftsbury, Sunderland/Arlington, Manchester, and East Dorset. The western leg of Route 279 has been completed and construction is expected to begin on the critically important northern leg in the near future. The southern section of Route 279 is still in the planning phase. Traffic engineering studies have demonstrated that the Route 279 highway system will significantly improve through traffic movements, enhance the function and safety of in-town intersections, and reduce congestion and truck traffic in the downtown. Because many economic development and downtown revitalization opportunities are dependant upon completion of this highway, strong efforts should be made to obtain adequate funding for its timely completion.

The Town of Bennington should assess their land use plan and local roads in the vicinity of the interchange areas to ensure that the town is prepared for the coming concentrations of vehicular traffic. The Town also should plan and pursue opportunities for downtown improvements to take advantage of the enhanced environment that will be provided by Route 279. A welcome center planned for the interchange north of Bennington will serve a critical role in providing information on area attractions to passing motorists.

### **Arterials:**

Arterials (generally state highways) provide principal travel routes between and across villages and urban centers. Direct access to abutting properties from arterials also is possible, subject to control over the location and design of entrance and exit drives. Recent reconstruction of sections of Route 9 has greatly improved this principal travel route between Bennington and Brattleboro; additional improvements along this highway, in both Bennington and Windham Counties, are needed and should be pursued. Route 7A serves both arterial and collector functions; but as the principal highway connecting many of the region's community centers, high priority should be given to maintenance and improvements to this roadway. Specific issues and needs for these and other arterial highways in the region are included in corridor studies and the Bennington Regional Transportation Plan.

Arterial design should include a number of important elements: climbing lanes in areas of steep grades, channeling of traffic at intersections, traffic calming at approaches to village centers, parallel service drives to minimize access points in congested areas, and appropriate landscaping. In business districts and high-density residential areas, sidewalks with a minimum width of five feet should run alongside arterials. Future improvements to arterials should attempt to develop a parkway setting and include shoulders designed to safely accommodate bicycle use.

The relationship between arterials and adjacent land uses also is important. Residential developments that are located adjacent to arterials should generally be designed to avoid direct access to the arterial from individual lots. Appropriate access management principles (e.g., limiting access points, use of shared drives, etc.) should be employed with any new commercial development and applied whenever possible to existing developments having poor/unsafe access. Municipal subdivision and zoning regulations may be utilized to help communities regulate access. Cluster development (discussed in Chapter VII) is particularly appropriate along arterials, as a means of maintaining open space while providing controlled access.

### **Collectors:**

Collectors are secondary roads that provide routes for traffic between arterials and local streets. Direct access from collectors to abutting properties is common. Collector systems should be designed to connect neighborhoods and distribute residential traffic from local roads to arterials, commercial centers, and other service areas. In residential areas and commercial centers collectors should include sidewalks or footpaths to allow safe travel by pedestrians. Because many collector highways also are preferred bicycle routes, adequate provision should be made for safe use by bicyclists. Landscaping is called for when roadway construction disturbs natural vegetation. To the extent possible, collectors should not intersect with arterials at less than 1,000-foot intervals.

### **Local Streets:**

Local streets are small low-speed roads that provide direct access to abutting lands. In some instances, highly connected networks of local streets can provide an efficient alternative to arterials for the accommodation of cross-town travel. Intersections must be carefully designed, and to the extent possible, local streets should not intersect with arterials. Developments should utilize various local street patterns (e.g., loops, cul-de-sacs, grids) to provide visual interest, enhance special points of interest, and promote safe traffic flow.

### **Highway Improvements and Priorities:**

Because highway improvements often represent some of a town's most substantial capital expenses, municipalities should form capital budget committees and include road/bridge construction and equipment needs in their capital programming. In addition, towns should identify their most pressing transportation infrastructure needs on a regular basis and communicate this information to the BCRC and the Agency of Transportation. Improved communication and coordination between towns, the BCRC, and the Agency of Transportation has been a major objective of the BCRC's transportation planning initiative. Such communication can ensure that local needs are addressed and that the transportation planning objectives of different jurisdictions are not in conflict. The BCRC's Transportation Advisory Committee (TAC) has been established specifically to facilitate this communication, and municipalities should be sure to appoint representatives to serve on that committee.

Towns should consider the three categories of roadway improvements, which are (in order of significance): (1) reconstruction and maintenance of the existing highway system to protect and maintain existing investments; (2) improve and increase the capacity of the existing highway system; and (3) construct new transportation facilities to improve the overall efficiency of the existing highway system.

Town officials and local transportation planning committees should establish a list of issues to address that may include such things as:

- Correction of road and bridge structural deficiencies;
- Water management/drainage facility maintenance and construction;
- Evaluating methods to improve through traffic by controlling access;
- Controlling vehicle speeds to promote safety through use of speed enforcement, "traffic calming" devices, and other strategies;
- Correcting awkward or unsafe intersections;
- Improving the appearance of highways;
- Identifying appropriate corridors for new roads;
- Assessing current operation and maintenance techniques.

Capital projects in which the State is involved are identified in the Agency of Transportation's Capital Program and Project Development Plan. Municipalities should work with the BCRC and the AOT to identify important projects for priority action or consideration. Each year the BCRC should establish a priority list of transportation projects for the region. The BCRC and affected municipalities should participate in subsequent project development activities and work to ensure that projects in the Capital Program receive adequate funding.

### **Class 4 Town Roads:**

Many towns contain Class 4 town roads (Table 9-1). Because of concerns over liability and maintenance requirements, towns may choose to either abandon ownership of these roads or downgrade them to trail status. In the future, reclassification of such roads to trails, rather than abandonment, should be the preferred option so that public access for recreation can be retained.

### **Scenic Roads:**

The scenic roadways that wind through Bennington County are a fundamentally important element of the region's valued rural character. Wherever possible, these roads should be preserved in their present state; care should be taken to maintain their existing dimensions, surface, and roadside vegetation. It is possible for municipalities to formally designate local scenic roads and adopt ordinances to protect their character. Residential developments in areas served by scenic roads should be planned to minimize heavy use of such roads and subsequent demands for improvement.

Following is a partial list of particularly scenic roads in the region that can, and should, be refined by towns:

Arlington:	River Road, Route 313, Maple Hill Road
Bennington:	Carpenter Hill Road, South Stream Road, Vermont Route 9
Dorset:	Mad Tom Road, Dorset West Road, Dorset Hollow
Landgrove:	Town Highway #2, Forest Highway #3, Vermont Route 11
Manchester:	River Road, West Road, Three Maple Drive, Wideawake Road
Peru:	Vermont Route 11, Forest Highway #3
Pownal:	Route 346, Witch Hollow Road, County Road, Brookman Road, South Stream Road, Northwest Road
Rupert:	Route 315
Sandgate:	The Notch, Camden Valley Road, Sandgate/Beartown Road
Shaftsbury:	West Mountain Road-LeClair Road-Murphy Hill Road, East Road, Trumbull Hill Road, Potter-Montgomery Road, Myers Road, Cold Spring Road
Stamford:	Vermont Route 8/100
Sunderland:	Kelly Stand Road, North Road
Woodford:	Vermont Route 9
Region:	Route 7 from Bennington to East Dorset

The BCRC has worked cooperatively with the Windham Regional Commission to secure designation of Route 9 as a Vermont Byway (the Molly Stark Trail). Because of the designation, funding was made available to develop informational signs, brochures, and a website that enhances the experience of traveling the highway while encouraging tourists to stay and enjoy the resources available in the area.

### **Parking:**

There are some localized parking problems in the region, particularly in Manchester Center and downtown Bennington. A shortage of parking not only adversely affects business in the area, but can also contribute to traffic congestion. Two actions can help to limit the problem and perhaps even improve the situation in the future: (1) strict adherence to site plan requirements for on-site parking (in areas where

on-site parking is possible and appropriate), and (2) construction of conveniently located municipal parking lots near densely developed downtown areas. Ideally, parking lots should be located to the rear of buildings, should not front directly on major streets, and should be attractively landscaped, but should not be larger than necessary. Shared parking among property owners may be appropriate in some locations with surplus capacity. Special attention also should be given to provision of safe and efficient pedestrian routes within large parking lots and between parking lots and pedestrian destinations. Towns may attempt to work with affected business owners to raise the funds required for such facilities.

## **9.2 Public Transit**

There is a significant need for public transportation in the Bennington region. Access to transportation to health care facilities, for shopping and personal business, and for social or recreational purposes is particularly important to elderly and disabled residents. There is a need for transportation to work and job training sites for a number of residents. Many employers in Manchester have expressed a need for public transportation as a means to attract an adequate number of workers to the town. These needs are met, to some extent, by several health and human service organizations in the area. Bennington Project Independence, United Counseling Services, Town of Bennington Senior Center, Vermont Center for Independent Living, Southwestern Vermont Health Care, and the Dorset Nursing Association provide transportation to special user groups or for special purposes (Appendix B-10). The Green Mountain Community Network, Inc., doing business as the Green Mountain Express, is the regional public transit provider, and often contracts with the above mentioned organizations for special transportation services. The Green Mountain Express also operates a fixed route bus service around Bennington and a commuter bus between Bennington and Manchester. Marble Valley Regional Transit operates a commuter bus between Rutland and Manchester, making connections with the Green Mountain Express for commuters traveling between Bennington and Rutland.

## **9.3 Pedestrians and Bicycles**

Walking, running, and bicycling have become popular activities for recreation, physical fitness, and for travel to local stores and job sites. Transportation planning should encourage these healthful and environmentally sound activities. In certain areas—along streams or abandoned railway rights-of-way, for example—special paths can be constructed to accommodate such use. In village and urban areas sidewalks should be sited and planned so as to offer convenient and pleasant travel routes between adjacent commercial areas while connecting to nearby residential neighborhoods. The provision of bike racks for storage and security is encouraged particularly in areas that are convenient for bikers. In rural residential areas, sidewalks or footpaths should be located alongside busy roads to provide a safe travel route for pedestrians. When undertaking new construction or reconstruction of roads, towns and the State should consider the adequacy of those roads for safe bicycle travel, and include special provisions (i.e., sufficiently wide shoulders) for bicycle use.

## **9.4 Railways**

The 38 miles of railroad track that run through the Bennington region constitute a portion of the main line between Burlington and North Bennington. A five-mile spur (currently idle) runs to the center of Bennington. Track mileage in the region is owned by the State of Vermont and is operated by Vermont Railways, Inc. Although several area businesses ship and receive some freight by rail, the railways are not currently used as a major means of transport for materials in the region. However, the potential for a renewed reliance on trains in the future should not be diminished. Economic conditions will one day

again favor rail transportation, and the rail line lies in close proximity to many commercial and industrial areas. Manufacturers should be encouraged to use rail service when feasible, and towns should focus economic development efforts around rail access wherever possible. Track upgrades along the entire corridor are have been undertaken and should be continued to accommodate future passenger service between Rensselaer, NY and North Bennington and Manchester. Towns and the BCRC should encourage such rail improvements and work to ensure that any new rail services are conducted safely and in coordination with other modes of transportation.

## **9.5 Airports**

The W.H. Morse Airport is located in a rural residential and agricultural area west of Old Bennington. The airport serves a number of business needs and is the only facility available to private pilots in the Bennington region. The continued viability of the W.H. Morse Airport should be supported by the BCRC, the Agency of Transportation, and private businesses and aeronautics groups. Improvements to the airport facilities should be planned to reinforce and upgrade existing functions while maintaining the rural character of the airport environs. The economic, social, and environmental impacts of any proposed runway extension at the airport should be carefully evaluated.

## **9.6 Ancient Roads (Unidentified Corridors)**

In 2006, H.701, now Act 178, established a process for towns to determine the legal status of their roads. The Act allows towns the opportunity to identify and add to their town highway map all town highways and trails that it decides to retain as a public right-of-way. It also establishes a public discontinuance process for roads that a town's legislative body determines are no longer desired as public rights-of-way. Act 178 establishes criteria for a new classification of town highways to be known as "unidentified corridors." By definition, an unidentified corridor is a properly laid out town highway that does not appear on the town highway map as of July 1, 2009, is not otherwise "clearly observable by physical evidence of its use as a highway or trail," and is not a legal trail. A town has until July 1, 2009 (unless extended by the Legislature) to add unmapped town highways in order to retain those roads as town highways. On July 1, 2015, all unidentified corridors (that is, all properly laid out, but unobservable and unmapped town highways) are automatically discontinued. The process to identify ancient roads (unidentified corridors) can be a significant undertaking, including research of land records and old maps, field work, and a public process of identification and hearings. The significance of identifying such corridors could lead to the retention of access to land for recreation and natural resources. BCRC, within its capabilities, should assist municipalities with mapping resources and educational materials to support local efforts.

## **9.7 Policies and Actions**

1. New roads, driveways, and drainage systems should be designed, constructed, and maintained in accordance with the municipal subdivision regulations, street standards, and other local and state requirements.
2. Transportation improvement projects should be programmed in conjunction with other infrastructure improvements being planned and with planned development. The aims are to maximize efficiency and cost of the undertaking as a whole, minimize disruption in the area involved, and to help maintain managed growth. Major transportation improvements should focus on benefiting growth

centers and existing and planned development in rural areas. Investment for roads serving remote and mountain areas should be minimized.

3. Additions and improvements to the transportation system should be designed to minimize impacts on residential areas and avoid the loss of parks and recreation areas, agricultural land, wildlife habitat, and other important natural resources.
4. All new road construction should be consistent with limitations imposed by topographical conditions, natural areas, and areas having special resource value.
5. Residential development should be designed to avoid direct access to major roads from individual lots.
6. Commercial and industrial developments should provide adequate parking and include provisions for safe and efficient vehicular ingress and egress. Adjacent commercial or industrial uses should make use of common parking and access drives, and other appropriate access management techniques.
7. Commercial truck routes should be planned to minimize conflicts with local traffic and impacts on residential neighborhoods.
8. Scenic roads should be maintained for their scenic value while providing safe access for residents. Road construction and maintenance should be consistent with scenic values (width, alignment, roadside vegetation, etc.).
9. At interchanges of Route 7 and arterial highways, full control over access should be secured for a distance of 700 to 1,000 feet from the on/off ramps. Land uses at interchanges must be carefully regulated to avoid undesirable congestion and clutter.
10. Highway construction and reconstruction projects should be designed to accommodate bicycle use.
11. Encourage the development and maintenance of safe pedestrian pathways in villages, hamlets, neighborhoods, and all areas of concentrated residential or commercial development. Traffic calming techniques also should be used in these areas to reduce vehicle speeds and enhance safety.
12. Towns should ensure that plans for state highways are not contrary to their municipal planning objectives, and that plans of adjacent municipalities are compatible with their own.
13. The BCRC adopted a position statement concerning regional rail improvements on November 19, 1998, and that statement is included by reference in this plan. The conclusion of that statement reads as follows: "...It is both feasible and appropriate to undertake the improvements necessary to restore effective passenger and freight rail service to the region."
14. Towns may want to utilize mechanisms such as impact fees and the adoption of minimum levels of service standards to ensure that new development does not adversely impact local transportation infrastructure.
15. The BCRC should assist towns that wish to develop capital plans, impact fee schedules, or level of service standards.

16. Assist municipalities with mapping resources, educational materials, and grants to support a process to identify ancient roads (unidentified corridors).

## **X. PUBLIC UTILITIES, FACILITIES, AND SERVICES**

The number of public and quasi-public utilities, facilities, and services present in the region (map available at the BCRC office) represent valuable investments that must be properly managed and supported so that the quality of life of the area will be contributed to favorably.

### **10.1 Educational Facilities and Services**

Sound planning for educational facilities and programs is necessary to support a community's social and economic welfare. A good education provides the basis for a productive future for area children while teaching skills that are needed by local businesses. Local school facilities also often serve secondary functions as public meeting halls and recreational facilities. Maintaining a quality educational system is expensive, and school budgets typically constitute a majority of a town's annual budget. School enrollment trends are included in Appendix B-12.

The Southwest Vermont Supervisory Union (SVSU) provides support for most public schools in the southern portion of the region, while the Bennington Rutland Supervisory Union covers most of the Northshire towns. The Batten Kill Valley Supervisory Union covers the Towns of Arlington and Sandgate. Town school districts maintain elementary schools in all but three towns in the region; students from Peru and Landgrove attend the Flood Brook Elementary School in Londonderry, and Sandgate students may attend elementary school in Arlington or in a neighboring town in New York State.

There are three principal secondary schools in the region. The Southshire towns are served by Mount Anthony Union High School in Bennington. Stamford students attend high school in Massachusetts. Mount Anthony Middle School is also located in Bennington. Arlington Memorial High School serves Arlington, Sandgate, and some students from Sunderland. Most of the northern towns pay tuition for their students to attend Burr and Burton Academy, a private high school located in Manchester. Some residents attend the Long Trail School, a private school in Dorset and Maple Street School in Manchester. Other private schools in the Bennington area include Sacred Heart, Grace Christian, and Highland Hall. Most residents in Rupert and Landgrove attend high schools outside of the region.

A new middle school has recently opened on East Road, Bennington, replacing the outdated and overcrowded facility that was located on Main Street. The Arlington Memorial High School has developed a coordinated curriculum for grades five through eight, and now has a wing of the building dedicated to grades seven and eight. The Fisher Elementary School now has a wing of the building dedicated to grades five and six.

The region is fortunate to be home to two four-year colleges, Bennington College and Southern Vermont College, which offer a variety of degree programs. The Community College of Vermont also offers several courses each semester. Programs that offer continuing education courses via interactive television have been initiated at several sites around the state, and should be enhanced at the interactive television site in Bennington. Other specialty programs serving the region include the Bennington Career Development Center CDC, Bennington County School, Workforce Partnership, and Tutorial Center. The CDC works with local businesses to provide youth and adults with the skills required to meet the needs of the local employment market. In addition, the CDC offers specialized training and re-training courses to groups of employees.

The cost of education is one of the most significant issues facing Vermont and has prompted a review of the funding structure and delivery system. New programs and mandated educational requirements have led some school districts to realize that their elementary school facilities may be inadequate and programs must be kept current. These school districts should prepare capital budgets and programs, in cooperation with their local planning commissions, so that large capital expenditures will not overburden taxpayers. Several area schools have had expansion plans shelved, at least temporarily, by state requirements for on-site wastewater disposal systems. School districts, therefore, should include an analysis of their septic systems and wastewater disposal requirements early in the planning process.

### **Childcare Facilities:**

Among the goals of the state planning act is to ensure the availability of safe and affordable childcare and to integrate childcare issues into the planning process, including childcare financing, infrastructure, business assistance for childcare providers, and childcare workforce development. In the Bennington region, childcare providers provide a broad spectrum of services and educational programs – including registered home day care providers and licensed early education programs. BCRC recently assisted with community development grants for three new centers: Arlington, Manchester, and Pownal. Services such as these serve to support economic opportunity in the region by providing choice for working parents. As part of the planning process, communities should consider evaluating the need for such service and accommodating such uses in municipal bylaws. Information about existing or new childcare services and facilities may be obtained from the Child Development Division (Agency of Human Services) and the Bennington County Child Care Association.

## **10.2 Water Supply and Wastewater Disposal**

In areas of existing or planned medium to high-density development, public water supply and/or wastewater disposal systems are necessary to protect environmental quality and public health. Maintenance of existing systems and the provision of or for new capacity or service areas are factors that offer critical support to the regional land use plan.

There are a number of public water supply systems in the region. These systems range from small networks serving a handful of clustered residential units, to large municipal systems such as those in Bennington and Manchester and under construction in Pownal. While some of the systems are owned publicly and others are privately held, all systems with at least ten service connections, or serving at least twenty-five persons, are termed public community water supplies and are subject to certain state regulations. Recently, state and federal laws have mandated filtration and other improvements to a number of systems. Efforts to improve capacity or efficiency have, or will, also require capital investment in some of the systems. These improvements, while costly, will help ensure continued supplies of clean water. In addition, source protection areas have been identified and mapped; uses within these designated areas should be monitored. All of these efforts should be directed toward providing adequate supplies of clean water to residential, commercial, and industrial users, while supporting new development in designated growth centers. It may also be desirable and efficient to develop small community water supplies to serve hamlets and clusters of homes in rural areas. Investments in public water systems should not encourage scattered growth in outlying rural areas.

One of the factors that allows a public water system to support higher development densities is that the water supply is unaffected by wastewater that is discharged into the ground in the vicinity of that development. Another way to ensure that water supplies are protected is to rely on public sewage

disposal systems that collect and treat wastewater before discharging it (often into a river or spray field area). Such disposal systems also allow for the elimination of inadequate or failed on-site wastewater disposal systems. There are currently two municipal sewage systems in the region, one in Manchester and one in Bennington. These systems are adequate to support planned growth for the next several years in these important growth centers. The municipalities involved should allocate capacity to serve the development goals of the town. Public investments should emphasize system maintenance and remediation of environmental problems in areas within or proximate to established service areas. The systems must also be maintained and discharges monitored to ensure that receiving streams or areas are not adversely affected.

The Town of Pownal has designed a new system to serve the concentrated areas of Pownal, Pownal Center, North Pownal, and some areas with serious sewage problems. The Town has worked to ensure that the project will not lead to sprawl or adversely impact natural resources. The Town of Shaftsbury, seeking to revitalize South Shaftsbury business because of the closure of Stanley Tools, has identified sewage disposal as an impediment to redevelopment. The design of a new system for South Shaftsbury would be a major undertaking/challenge. However, there may be some merit to exploring an extension of the Bennington system, which serves the Village of North Bennington.

As new public wastewater treatment systems are extremely expensive, and since state and federal funds for construction are very limited, it is unlikely that, with the exception of Pownal, any new facilities will be built in the foreseeable future. Village and rural areas that are not served by municipal sewage systems must rely on on-site wastewater disposal systems; consequently, enforcement of local health/sanitary codes is of great importance. In village and rural areas where existing environmental problems are attributable to poor soils and/or inadequate septic systems, consideration may be given to the use of community disposal systems located on the most suitable soils. Community systems may also be the most practical way to serve new rural clustered housing developments.

A related issue concerns the disposal of sewage sludge. The Town of Bennington has constructed a composting facility to handle its sludge, with sawdust added to the sludge to create an environmentally safe biosolid that can be used in landscaping. In other areas, permits have been granted to allow for land application of sludge. An interesting opportunity for a regional solution to the problem of sludge disposal may present itself in the form of co-composting technology, whereby sludge is composted together with certain elements of municipal solid waste.

### **10.3 Recreational Facilities**

The many recreational facilities in the Bennington region are important both economically and for the contribution made by these facilities to the quality of life for residents of the area. Municipalities, the State of Vermont, the United States Forest Service, non-profit organizations, and private concerns all operate recreational facilities of one kind or another in the region. Continued public support, and cooperation among all of the parties involved, will ensure that the quality and variety of recreational experiences available in the region will remain one of the most distinguishing characteristics of the area.

The public parks and other facilities operated by the Vermont Department of Forests, Parks, and Recreation, and those maintained by the United States Forest Service, are among the most popular and visible recreational amenities in the region. The state parks and Forest Service camping and recreation areas offer a variety of activities and are well distributed throughout the region. In addition, state and federal lands, trails, and access areas (especially along rivers and streams) ensure that the natural

resources of the region are available for public recreational use. Opportunities for acquisition of land or easements for public use, or access to the region's extensive forests, rivers, and streams should continue to be pursued.

The ski areas in the region are also very visible and popular recreational attractions. Both cross-country and downhill ski areas are located in the region, mainly in the Green Mountain Range. During the spring, summer, and fall, many ski areas offer hiking trails, alpine slides, picnic areas, and other recreational activities that attract a variety of visitors and residents. The relatively intense development that can be associated with alpine ski centers suggests that expansion of this industry should occur at existing sites, rather than at currently undeveloped mountains in the region. This policy is especially indicated when consideration is given to the several major ski areas located just outside the region (e.g., Stratton, Mount Snow) and the potential impacts of further growth in the Green Mountains. There may be opportunities for expansion or development of new cross-country ski facilities, particularly in the Taconic Mountains. Such facilities could potentially make use of lands acquired by the Forest Service; provision could also be made for mountain bike trails that could be monitored and maintained at a commercial recreational facility.

Town recreation parks have become very important to local communities over the past several years. Willow Park and the recreation center in Bennington, Howard Park in Shaftsbury, the Dana Thompson Recreation Center in Manchester, the Arlington Recreation Park, and the Mettowee Valley Recreation Park are examples of these valuable community facilities. These parks support a host of activities including summer day camp for children, softball and volleyball leagues, picnics, community festivals, and provide facilities for numerous team and individual sports. These parks may need to be expanded in the future, in accordance with public demand. Willow Park in Bennington has been expanded to include several new features, including a BMX bike track. Pownal is the only one of the larger towns in the region that lacks a conveniently located community park; opportunities for developing a park in Pownal are currently being explored. A more recent development in the Town of Pownal is the acquisition of the Tannery mountain lands for multiple outdoor recreation uses.

It would be appropriate to develop small parks in some of the smaller towns in the region, and to establish "neighborhood parks" in the populous residential areas of larger towns. Large new residential developments should include land that is either ceded to the town or developed privately for recreational use of neighborhood residents.

There are a number of other special recreational resources in the region. The facilities at Lake Paran in North Bennington and the Merck Forest and Farmland Center in Rupert are two areas that offer excellent outdoor recreational opportunities. Golf courses, fitness centers, bowling alleys, and community centers also contribute to the matrix of recreational resources in the region. It is noteworthy that the region is host to five golf courses, in part because of the area's attraction as a tourist destination.

Public investments in infrastructure and other public facilities should also be mindful of the potential for supporting public recreation. For example, there is a current trend toward planning and creating "bike-ped" paths throughout the region, as well as "rail-trail" paths on old, unused rail beds. Roadway improvement projects should include the construction of shoulders to accommodate runners, walkers, and bicyclists. Stream bank stabilization work may include public access facilities, and downtown improvement projects can include walkways and public meeting spaces for senior citizens and other residents.

## 10.4 Solid Waste Facilities

Solid waste management and disposal is a significant and costly issue facing communities in the region. Local landfills have been closed and state solid waste laws and regulations are compelling local action in many areas; and a growing environmental awareness in the populace have brought such terms as “recycling,” “waste reduction,” and “composting” into everyday usage. These are goals are increasingly important since waste and recyclables are transported to distant processing facilities at considerable cost.

Under Vermont’s “Act 78,” the BCRC was responsible for creating what is now referred to as “A Solid Waste Management Implementation Plan for Bennington County.” New state regulations have instructed the complete revision of Plans in every town in Vermont. Currently, the BCRC is writing the Plan on behalf of eight towns in the region, and the plan is in the revision process. Bennington and Woodford have decided to write their own plans.

Towns make use of five transfer stations – Bennington, Dorset, Sunderland, Rupert, Shaftsbury and Stamford – to collect trash and recyclable materials. The Bennington and Shaftsbury Transfer Station takes recyclables and mixed solid waste. Most facilities use unit/based pricing fees for disposal and subsidies for recyclables. The Sunderland and Dorset (Northshire) Transfer Stations/Recycling Centers collect mixed solid waste, construction and demolition debris, special wastes, and recyclables. Only residents and businesses from the Towns of Arlington, Dorset, Manchester, Sandgate, and Sunderland may deliver recyclables to the Sunderland and Northshire Transfer Stations. The requested certified throughput capacity of the Sunderland Transfer Station is 19,656 tons per year. The current certified throughput capacity of the Northshire Transfer Station is 6,000 tons per year, with a permitted maximum of 10,000 tons per year. A new transfer facility being developed in Shaftsbury is currently under review for total through tonnage.

Refer to the Solid Waste Implementation Plan prepared by the BCRC on behalf of eight towns in the region, as well as the Bennington Solid Waste Implementation Plan, for more detailed information.

Over the course of a six-month period, the Towns of Arlington, Dorset, Manchester, Sandgate, and Sunderland recycle approximately 440 tons of material. The region is home to one construction and demolition debris landfill, located in Bennington, although it has now reached capacity and is closed. The owners have received approval for a new expanded site in Woodford to continue operations. With municipal facilities and options very limited, regional planning and cooperation is increasingly important to achieve economies of scale and to promote effective solid waste programs.

Facility Name	Owner/Operator	Location	Type
Bennington Transfer Station	Casella Waste Mgt	Bennington	Transfer Station
Northshire Transfer Station	Casella Waste Mgt	Dorset	Transfer Station
Sunderland Transfer Station	Casella Waste Mgt	Sunderland	Transfer Station
Rupert Transfer Station	Town of Rupert/Casella Waste Mgt	Rupert	Transfer Station

Pownal Transfer Station	Town of Pownal	Pownal	Transfer Station
Stamford Transfer Station	Town of Stamford	Stamford	Transfer Station
Arlington School District WWTP	Arlington School District	Arlington	WWTP
Manchester WWTP	Town of Manchester	Manchester	WWTP
Shaftsbury Landfill	Town of Shaftsbury	Shaftsbury	Closed/Mobile Collection; Recycling
Pownal Landfill	Town of Pownal	Pownal	Closed
Sunderland Waste Mgt Landfill	Sunderland Waste Mgt	Sunderland	Closed
Burgess Bros C&D Landfill	Burgess Bros	Bennington	Closed

Proposed Pownal WWTP	Town of Pownal	Pownal	Proposed WWTP
Proposed TAM Transfer Station	TAM, Inc.	Shaftsbury	Proposed Transfer Stn
Proposed Burgess Bros C&D Landfill	Burgess Bros	Woodford	Proposed C&D Landfill

Source: A Solid Waste Management Implementation Plan, 2007

For many years, regional and local solid waste planning efforts have encouraged waste reduction, recycling, and household composting. The need for the Bennington region to effectively and efficiently manage solid waste is absolutely critical given the highly tenuous nature of the out-of-region disposal options that are being relied upon at this time. When the comprehensive solid waste plan was developed by BCRC in 1992, only 7.8 percent of the region’s waste was disposed of within the county. The remaining 92.2 percent of the region’s waste was hauled to out-of-region or out-of-state facilities. Today, there are no disposal facilities in the Region.

Food and agricultural waste-composting programs should be supported by encouraging sources of food waste to participate.

Towns in the region must also identify the most appropriate long-term solid waste management structure. Since existing solid waste and recycling facilities in the Region are likely to be the delivery system in the foreseeable future, efforts should focus on programs and delivery systems to maximize reduction, reuse and recycling of solid waste.

## **10.5 Public Buildings**

Special mention must be made of the public and quasi-public buildings that have historically been of great importance to New England community life, such as town halls, community centers, post offices, churches, and libraries. These structures provide an important focus for towns and help to define a community’s “sense of place.” These facilities also provide gathering places for public functions and meetings. As development patterns become more scattered, it is ever more important to retain these buildings in historical town centers, for if they are allowed to disperse, a town will surely begin to lose its cohesiveness and sense of community.

Two towns in the region, Sunderland and Rupert, lack town hall buildings. These towns have both noted the desirability of obtaining central office buildings, but costs have been prohibitive. Nonetheless, those

towns will remain alert to any opportunities that may present themselves. Other towns in the region are faced with inevitable crowding and expansion needs as municipal government becomes more complex and the demand for services grows. Towns should include expansion plans for town buildings, such as offices, highway garages, and community centers, in town long-range capital planning activities.

The region is fortunate to be served by a number of local and sub-regional libraries; the Bennington Free Library and the Mark Skinner Library in Manchester are the largest in the region. Other libraries in the region include the Dorset Public Library, the Martha Canfield Library in Arlington, and the McCullough Library in North Bennington. Towns have historically been generous in their support of libraries and should continue to contribute to ensure the quality of these community resources.

The former federal office building on South Street in Bennington is now the Police Station, located across from the Town Office building. There is also a state office building in Bennington, located on North Street. The facility has been expanded to allow for more efficient administration of state programs.

## **10.6 Health Care Facilities**

The major health care facility in the region is the Southwestern Vermont Medical Center, located in Bennington. A convalescent center, medical offices, and other health care facilities surround this full-service hospital. Medical offices are also found in Shaftsbury, Arlington, Sunderland, and Manchester. Several dental offices are distributed to serve both Northshire and Southshire towns. Bennington Area Home Health, Dorset Nursing Association (and new affiliation), and Manchester Health Services are important components of the health delivery system. These health care facilities provide excellent service for area residents and appear adequate to serve the needs of the region for the next several years. It should be noted that some physicians and dentists are limiting new patients, and health facility expansions have experienced zoning limitations. As such, these issues deserve greater attention in meeting long range needs.

Special mention must be made of the crucial role played by the many volunteer health care organizations in the region. Local rescue squads, staffed by volunteers, respond to emergency situations and transport injured or ill persons to the proper medical facilities. These squads manage to maintain efficient operations with the help of voluntary donations and fundraising efforts. Replacing the volunteer rescue squads with paid ambulance and emergency response services would be extremely expensive for towns and/or those benefiting from the services. Community support, in the form of both volunteers and dollars, for the rescue squads is therefore vitally important.

## **10.7 Electric Transmission**

With the exception of areas in Stamford and Rupert, the Bennington region is served by electric transmission facilities owned by the Central Vermont Public Service Corporation. A 115 kV line enters the region in Pownal and runs through the valley north to Manchester. A smaller transmission line enters the region from the east in Woodford. Electrical substations and local transmission lines distribute this energy throughout communities in the region. Recent planning studies by CVPS have focused on the need to ensure that the system is adequate to meet peak demands and future growth. A number of

alternatives for increasing capacity and/or managing the system to avoid power outages are being explored.

## **10.8 Communication and Information Services**

Telephones, newspapers, radio, and television are all important modes of public communication and information dissemination. The telephone system in Bennington County is continuously modernized, and offers a number of useful services. Communication over telephone lines has become increasingly important with the advent of computer modems and fax machines. Today, it is not uncommon for a business, or even a household, in the region to have Fiber Optic Cable (ISDN) service as a means of communication. It is also not uncommon for employees to work from their homes via Internet and Electronic Mail (E-Mail) capabilities (Appendix B-13).

One daily newspaper, The Bennington Banner, is published in the region. The Rutland Herald also provides news coverage of Bennington County and is widely read in the area. The Manchester Journal, a weekly newspaper, provides coverage of Northshire towns, and the Williamstown Advocate, another weekly newspaper, also carries articles on Bennington County. The Vermont News Guide is a popular weekly publication that contains letters to the editor, community announcements, and extensive classified advertisements.

Broadcast television in most parts of the region is poor because of transmission distances and rugged topography. In many areas, topography even limits the potential for home satellite reception. Consequently, cable television is important in the region. While urban and village areas have had access to cable television service for a number of years, many rural communities still lack access to this information and education source. A concerted effort should be made to encourage the delivery of cable television lines to those rural areas. Other important venues of disseminating information and facilitating public participation are the public and education access stations (CAT TV, Northshire Access TV), and Vermont Interactive Television (VIT).

Several local radio stations serve the area: WBTV (AM), Vermont Public Radio (FM), and WZEC (FM) in Bennington, and WJAN (FM) and WEQX (FM) in Manchester. These stations carry some programs and advertising of local interest. A number of radio stations from outside the region are also received in the area, many of these stations being transmitted from the Albany, New York area.

Personal Wireless Service Facilities (PWSF) is one of the most rapidly expanding services. PWSF is a broad term encompassing a broad range of wireless communication technologies that transmit information almost instantaneously, primarily including cellular phones (which use analog technology) and the newer personal communication services (PCS) (which use digital technology). Emerging wireless services also include wireless internet and email, wireless cable television, wireless broadband and narrowband, two way paging and internet radio. Carriers (service providers) of the radio signals operate at different frequency ranges, which affects the distance the signal can reach and the options/needs for the support infrastructure (towers & height, mounts on existing structures, or a hidden antenna in a barn cupola, church, or public building).

The deployment of services in the Bennington Region has picked up considerably as rural markets are being targeted for coverage. The infrastructure can include a tower, antennas of various sizes and styles (which may be mounted or placed in an existing structure), and either indoor or outdoor sheds/cabinets for equipment (see Appendix B-15). Other support facilities may include access roads, electrical service,

and security lighting. Towers 200 feet or greater require a light by the Federal Aviation Administration. Both terrestrial facilities and satellite services will continue to serve the market. There does not seem to be a trend toward only satellite service, and generally both services are complementary. For the foreseeable future, trends indicate: more providers, more users, a greater variety of services, more antennas, some more towers (not nearly as many more as antennas) more siting and aesthetic strategies, and better coverage versus gaps in service. Three of four recent provider applications in the Bennington Region are for antenna(s) versus towers. However, towers in some areas may be proposed to overcome gaps in signal coverage where existing structures do not exist or are inadequate for signal direction and strength.

The Federal Communication Commission (FCC) retains jurisdiction over Radio Frequency Radiation (RFR) and Radio Frequency Interference (RFI). All wireless base stations must meet the science based emission guidelines to ensure the safety of people. The standards are based on thermal effects and are felt to be conservative in protecting the public. However, there has been some concern regarding non-thermal biological effects suggesting avoidance and close proximity of RFR exposure, although there is no conclusive science. While radiation emissions are under the purview of the FCC, communities may monitor and report conditions exceeding standards.

The Bennington Region is a unique challenge in developing infrastructure for wireless service. The narrowness of the inhabited valleys and highly visible slopes of the Green and Taconic Mountain Ranges will require careful siting relative to people, primary transportation routes, and the environment. The Bennington Region will best be served by a logical regional infrastructure network plan. Ingredients of such a plan include: Reasonable build-out to ensure signal coverage, use of existing structures, consequences of co-location, environmental sensitivity (aesthetic and natural areas), historic sites or districts, and selective versus random/speculative placement of towers as part of a regional network. Towers should be avoided in more populated town and village centers (unless provided for in local zoning) and should not create a nuisance in residential neighborhoods. Municipalities may provide for or restrict towers in certain districts. In all cases, the pros and cons of smaller towers (fewer service carriers) versus larger towers (more than two carriers) must be weighed in terms of maximizing benefits while minimizing the system's overall impact relative to people and the environment, and optimizing the quality of service.

The placement of relatively small antennas in/on existing structures is not likely to create aesthetic concerns except for historic properties or districts (notwithstanding health issues). While tower placement is a function of "propagation" studies to achieve signal connectivity and continuity for a given technology, municipalities should identify areas that are people or environmentally sensitive. The BCRC should create alternative GIS overlays using sensitivity criteria as a potential guide for tower development in the region. Such an effort will not be perfect and will need to be supplemented with additional review criteria for a given site/area as to its overall fit and aesthetic impacts. Municipal plans and bylaws should incorporate similar information so that regional and local policies are coordinated. At a minimum, municipalities should incorporate minimum standards for review for both antennas and towers. Further, local ordinances may restrict towers from certain districts or highly sensitive areas and can treat them as a conditional use subject to local review criteria.

Appendix B-14 includes stipulations for local governments taken from the Federal Telecommunications Act of 1996. It is important that local officials understand the accommodation and review authority under the act. Because telecommunication infrastructure is a highly complex issue, local officials will need to retain professional consultants to assist with reviews on a case-by-case basis. The State enabling statute

for zoning allows communities to require a reasonable fee from an applicant to provide for an independent review. Illustrations of cellular infrastructure are included in Appendix B-15.

The U.S. Forest Service is currently in the process of updating the land use and resource management plan. Forest Service policy allows for the designation of “Communication Sites,” as part of the planning process. This should be included among the focus topics as to the implications and potential for leased land in the Green Mountain National Forest and the Taconic Range.

## **10.9 Public Safety**

Police and fire protection are important services for any community. Bennington and Manchester maintain the only paid police departments in the region. No other town in the region is large enough to be able to afford its own police force. Many of these rural communities, therefore, rely on Bennington County Sheriff patrols that are available on a contract basis. Locally elected constables also perform some law enforcement activities in a number of towns. The Vermont State Police (Barracks in Shaftsbury) serve a critical function in patrolling and responding to incidents throughout the region. It is essential that these public safety services continue to be provided.

Volunteer fire departments are active in towns throughout the region. Fire fighting equipment is expensive, and in addition to replacing vehicles periodically, new equipment and stations are sometimes necessitated as development spreads to new areas. The fire departments rely on donations and annual contributions from the towns that they serve. Due to the considerable costs involved, it is important that the fire departments participate in municipal capital planning efforts and supporting costs such as insurance.

Vermont’s E-911 emergency response system provides accurate geographic and address information for support response. BCRC has assisted the state and municipalities to ensure that data are current and accurate.

## **10.10 Emergency Management**

The Bennington region is prone to natural disasters and adverse weather conditions, as is common in New England. Due to the topography and rural nature of the region, such natural disasters often strike only sections of a town or area, and generally do not affect the entire region all at once. The Bennington region has been declared a Federal Disaster Area several times over the last few years, allowing for Federal funds to be awarded to towns for reimbursement and reconstruction of damaged public infrastructure. Refer to the Bennington Regional Hazard Mitigation Plan for more detailed information.

There is an organization in the region called the Local Emergency Planning Committee (LEPC), comprised of town officials, fire departments, Vermont State Police, Department of Health, police departments, the hospital, schools, the regional planning commission, and other primary and secondary emergency responders. The LEPC works on emergency prevention in the region, coordinates meetings and trainings for emergency personnel, and has created an “All Hazards Plan” for the region.

The BCRC acts as the liaison between the towns in the region, Vermont Emergency Management, and the Federal Emergency Management Agency in Boston. BCRC emergency planning consists of tasks within several activities, including Rapid Response Plan & Emergency Operations Plan Development, Codes &

Standards, Mitigation Projects, Disaster Education/Public Information, Emergency Training/Exercises, Disaster Response, and Program Administration.

Rapid Response Plans (RRP) are condensed, four-page emergency plans for towns. The RRP contains contact names and telephone numbers, steps to be followed in the event of an emergency, and a town map showing all of the roads with names, Emergency Operations Centers, shelters, fire departments, and other emergency information. To date, fourteen of the seventeen municipalities in the region have an RRP. The LEPC encourages all of the towns to create Rapid Response Plans. (Refer to Appendix B-16 and the Sample Rapid Response Plan Map, Appendix B-17.)

The BCRC worked with the Agency of Transportation (VTrans) and the Vermont Local Roads Program to educate communities on adopting “codes and standards” and issuing access permits. To date, all of the towns in the region have adopted these codes and standards. The BCRC is also responsible for providing information to towns on resources, grants, and training opportunities provided by the Federal Emergency Management Agency and Vermont Emergency Management, as well as educating communities on the National Flood Insurance Program and Flood Hazard Area Regulations.

Identifying and performing a risk assessment of flood prone locations in the area is a high priority for the region. Portions of the Roaring Branch in Bennington should be explored for mitigation options. Towns frequently request assistance from the BCRC in applying for funding under Pre-Disaster Mitigation Competitive Grant program and other mitigation grant programs.

Upon request, either during or after a natural disaster, the BCRC is available to gather data and inform Vermont Emergency Management of issues and conditions.

Emergency Management is important to the economic stability of the region, and should remain a high priority. Local leaders and emergency responders are encouraged to participate in the Local Emergency Planning Committee and become involved in emergency management.

### **10.11 Policies and Actions**

1. Public investments in utilities, facilities, and services should support and reinforce historical development trends. Such investments should encourage development in designated growth centers, and not in outlying areas.
2. Public facilities such as schools, sewage treatment plants, and fire trucks, are expensive. Careful and coordinated financial planning at the municipal level is therefore very important. The BCRC should assist towns in developing effective capital planning processes.
3. Large new developments that directly impact the cost of providing public facilities and services (e.g., necessitate road widening, new park space, or a school addition) should be responsible for paying for those improvements.
4. Continue efforts to ensure that educational and vocational training opportunities are sufficient and accessible for all area residents.
5. Emphasis should be placed on the maintenance of existing public water supply and wastewater disposal systems to serve areas of concentrated development, or to correct a serious health hazard.

6. Where boundaries of wellhead protection areas are in doubt, as in Sunderland, studies should be undertaken to establish correct boundaries. The BCRC should help communities develop wellhead protection strategies and appropriate land use regulations.
7. Recreational uses and developments should provide opportunities for a variety of activities throughout the region while recognizing the importance of maintaining a high quality natural environment.
8. The BCRC should assist towns in their efforts to upgrade parks or establish new park facilities.
9. Wireless infrastructure needs to have the least obtrusive effect on the environment. A preference is for the use of existing structures for service provider needs unless structures are not available. Excessive height of towers (more than 20 feet above the tree line) needs to be avoided to retain the quality and character of an area. Exceptions to height may be warranted if it can be shown that the regional network will benefit aesthetically by fewer installations or wireless service cannot be deployed. Personal wireless facilities need to minimize human exposure to RFR (FCC – Key to avoiding health risks). Facilities need to demonstrate how location/siting minimizes exposure and provides for periodic readings of radio frequency radiation (RFR). An overarching deployment policy in order of preference is: hidden antenna in existing structures, attachment to existing structures, use of effective stealth facilities and camouflage, low towers, and some taller towers 130 feet in height or greater if they are needed for capacity and coverage and are a less obtrusive alternative by requiring fewer towers. In all scenarios, antennas need to avoid proximity to residences and schools to minimize exposure to radio frequency radiation.
10. The BCRC must maintain and update the current comprehensive solid waste plan for the region. This planning effort will be most effective if town participation is promoted. Long-term facilities and management structures must be determined and implemented in the near future.
11. The expansion of the existing food and agricultural waste composting program should be encouraged, in addition to encouraging the creation of additional decentralized, small-scale food, yard, and agricultural waste composting, including backyard composting.
12. The BCRC should participate in reviews of state agency plans and development proposals that could impact regional facilities. The BCRC should assist municipalities in the review of proposals with potential impacts on local facilities or services.
13. The BCRC should continue to assist with the preparation of Rapid Response Plans for towns in the region, as well as continue an active roll on the Local Emergency Planning Committee. The BCRC should remain the liaison between the towns and Vermont Emergency Management, gather and disseminate damage reports in the event of an emergency, and provide information to towns on grants and training sessions available to emergency responders.

## **XI. HOUSING**

### **11.1 Housing Supply and Affordability**

As reported in a recent assessment of housing summits sponsored by Vermont's regional commissions, the rising cost of housing (affordability), and choice of housing (supply) is an increasingly disturbing trend. This has a direct effect on quality of life, disposable income, and job retention/creation. The Bennington County Housing Summit (March 15, 2001) identified a range of issues suggesting the need for a sustained commitment to improve the overall housing supply. Some of the observations reported by panelists include:

- The ability to live and work in the same community.
- Reinvesting in our communities to revitalize neighborhoods/downtowns.
- Effectively utilizing grants and loan programs for ownership and rentals.
- Evaluating regulations that contribute to higher cost (recognizing market dictates).
- Supporting affordable housing providers such as non-profits to supply needed housing.
- Encouraging on-going dialogue with the private sector and lending institutions to grow housing opportunities.
- The issue cuts across a range of household wages/incomes.
- Need for land and improved technology and innovation.
- Shortage of units to meet the need of smaller households.
- Regulations and permitting are too restrictive.
- Communities may not fully appreciate the significance of the issue and embrace it.
- Private return on investment is modest in the housing industry.

**Supply** (Tables referenced are 5-3 in Population section of this plan, and in Appendix B-18)

The current (2000) housing stock (including seasonal) in region towns is 17,133 units, which represents a 4.2% increase from 1990 (16,446 units) (Table 5-3). This compares to a 17% increase in the 1980s. Seasonal units declined by 343 (-13.8%) from 2,481 (1990) to 2,138 (2000) (Table 5-3). Conceivably some of the seasonal units were converted to year-round housing. The modest increase in housing growth in the 90s (4.2%) is nearly comparable to the population increase for the same period (3.2%). Employed residents in the Bennington-Manchester labor market area increased by 5.8% from 18,800 (1990) to 19,900 (2000).

An adequate supply of vacant units is necessary in a healthy housing market. Insufficient vacancy rates can lead to artificially high housing costs, as well as reduced market activity and consumer choice. A rule-of-thumb used for a healthy housing market is 2.5% for owner housing and 5.0% for rental housing. Other guidelines provide ranges given the growth of a particular area, but they are similar to these basic guidelines. Table H-3, indicates that nearly all of the municipalities and regional housing stock are below the optimal standard for ownership-choice. That is to say that the vacancy rate of owner type units is in low supply.

Renter vacancy rates in the larger communities with larger housing stocks demonstrate a tight market as well (Table H-3). These rates are even significantly less than what was available for rentals in 1990 (Bennington, Dorset, Manchester, Shaftsbury). This data is an indicator of the need for additional new

housing and conversions to increase units. The transfer (trickle down) of older home owners [homes] to meet demand is less significant given emphasis on independent living, wellness and home assistance programs.

### **Household Make-up**

Table H-4, identifies total households and make-up. Households may include one or more individuals – family or nonfamily – living as a single housekeeping unit. Total households increased in the Bennington Region by 8.8% in the 90s, and all towns in the region experienced an increase. Family households increased by 3.4% and nonfamily households increased by 21.4% for the same period. While not shown on the table, the average household size continued to decline in the 90s and in Bennington County is 2.52 (owner occupied) and 2.13 (renter-occupied). Smaller household sizes suggest a potential demand for smaller homes and rental units.

### **Housing Affordability**

It is widely recognized that there is a shortage of affordable housing in many towns in the region. The demand for seasonal homes/rentals and the low vacancy rate are just two of several factors that influence the cost of housing. Relatively high land and development costs in the region are undoubtedly also of considerable import to the affordable housing issue.

Per capita income in Bennington County in 2000 was \$21,193. While this represents an increase of 56% from 1990 wages (\$13,543), the region falls short of the Vermont per capita income of \$25,469. 2005 Vermont Department of Employment and Training figures for average annual wage show a lesser difference between County and State figures; \$30,939 and \$34,199 respectively. The median household income in Bennington County is \$39,926 compared to \$45,686 in Vermont overall.

It is generally accepted that housing can be considered "affordable" when a family pays no more than 30% of their gross income on housing costs. By one definition then, a house may be considered as "affordable" if a family earning the county median income is able to purchase it (using 30% of their income for mortgage payments, property insurance, and property taxes). Another indicator is 2.5x gross income for the purchase price of a home. According to the data above, the median household income in Bennington County is \$39,926. Such a family could afford to purchase a house selling for roughly \$100,000, well below the value of a median priced house in the county. According to the Vermont Department of Taxes, the 2005 median sale price of a home in Bennington County was \$170,000, compared to \$185,000 in Vermont overall. The 2005 average sale price of a home in Bennington County was \$255,788, compared to \$220,671 in Vermont overall. Significant increases are seen in the median sale price of a seasonal home in 2005 (\$325,000) and average sale price of a seasonal home in 2005 (\$431,106), both over 40% higher than Vermont prices. As indicated in the BCRC Housing Needs Analysis, 1996, the affordability issue is significantly challenged for households with incomes at 80, 50, and 30% of the median income. The value of housing in the region's municipalities varies considerably with some Northshire towns presenting even less opportunities for average and lower income persons. (Tables H-5-6-7). The problem has significant ramifications to other community needs such as available labor force.

Low vacancy rates and the cost of rental units are equally challenging for area residents. The U.S. Department of Housing and Urban Development establishes "fair market rent" for rental housing for Vermont's Counties. Some feel that these do not reflect fairly all communities' rental amounts, which

may be much higher. Currently, there is no means for local adjustment schedules that bear on public subsidies. HUD Fair Market Rents in 2006 for Bennington County are:

- 0 Bedroom Unit - \$471
- One Bedroom Unit - \$590
- Two Bedroom Unit - \$687
- Three Bedroom Unit - \$895
- Four Bedroom Unit - \$1,052

The unfortunate effect of these high housing costs is that people who grew up in a town and who work in that town are unable to live there. This situation tends to promote scattered growth as people are forced to search for housing in more remote areas, while necessitating undesirably long and inefficient commutes by workers. Employers in these towns are also affected, as they are less able to attract employees. A town's sense of community and social cohesiveness is also adversely affected when native residents and young working families are forced out of town by high housing costs.

Three towns in the region – Bennington, Manchester, and Shaftsbury – have already completed analyses of the affordable housing situation in their communities and have developed plans, of one type or another, to address the issue. Some of these local initiatives are summarized in 11.3 Policies and Actions, and include planning, public investments, regulatory actions, and cooperation with nonprofit organizations and private businesses. The involvement of local communities is critically important because individual towns are best able to evaluate their own housing needs and identify resources and actions that may be available to satisfy those needs. Recent changes to the regional and municipal planning act (T. 2 V.S.A. Chapter 117) requires provision for accessory apartments and multi-family housing in zoning bylaws. This is intended to provide greater housing opportunity and choice and many municipalities have incorporated such changes to their bylaws.

According to the Vermont Planning and Development Act, regional planning commissions must "identify the need for housing for all economic groups in the region and communities." The regional commissions are to give due consideration to housing data gathered as part of municipal planning processes, thus reinforcing the importance of local planning for housing. The BCRC completed its required regional housing analysis in 1996. This assessment of housing need should be updated periodically, particularly when new Census data is released; the report should be formatted so that towns can perform periodic updates with minimal outside assistance.

Once towns have established affordable housing goals and prepared appropriate plans, implementation measures must follow. While towns may be able to initiate many actions on their own, in many instances the assistance of a dedicated housing organization may be necessary. Fortunately, a nonprofit housing corporation, the Bennington Regional Affordable Housing Corporation (RAHC) was established in 1989 to assist in the provision of affordable housing in communities throughout the region. RAHC has a board of directors representing a broad cross-section of interests in the area, and obtained a grant to develop organizational capacity and hire a full-time director. Thus far, RAHC has rehabilitated several housing units in Bennington and has agreed to serve as the center for Manchester's housing needs registry. As a nonprofit organization, RAHC may be in a good position to obtain funding and otherwise support local efforts to develop or preserve affordable housing. An important source of funds for such housing efforts in Vermont has been the Housing and Conservation Trust Fund, set up as part of Act 200. Strong support should be given to RAHC and the Housing and Conservation Trust Fund to ensure that municipal housing

objectives can be realized. Other important nonprofit providers include the Bennington Rutland Opportunity Council, Bennington Housing Authority, and THM, Inc.

In any housing planning effort, consideration must be given to the area's special needs population. These residents include senior citizens, disabled persons, and very low-income families. The region's communities have a responsibility to ensure that adequate housing is available for these people. Special incentives and public financing are generally necessary to ensure that the required numbers of units with sufficiently low rents and/or structural considerations are produced.

Each town in the region will address the affordable housing issue in a unique manner. The demand for housing of various types and prices will differ from town to town. Some towns have more resources available (e.g., municipal water and sewer systems) than other towns to support housing development. Small rural towns, in particular, may need to develop innovative strategies to encourage the desired number of affordable housing units. Thus, the recommendations enumerated below that apply to municipalities should be viewed as a sample of options, some of which may be effective in a town based upon the conditions in that community.

### **11.2 Housing Targets and Regional Compact**

The 1996 BCRC Housing Needs Analysis describes the methods used to identify housing need targets by municipality. Until new Census data is released, they will continue to serve as an indicator of need (Table H-8). The need categories include income gap (50% of median income), structural gap, rehab gap, and lead paint – all free standing targets. All towns are reflected in the targets, which overall, depict relative municipal demand. The targets are helpful for certain public subsidy assistance programs. Not reflected in the table are targets for new construction, additional rentals, or special needs housing. These are an equally important means of improving the overall housing market and supply.

The housing study also recommends that communities in the Region engage in a dialogue to develop and participate in a Regional Compact. A committee of the BCRC could draft such a compact, which would then be offered to each municipality for endorsement. Each municipality, guided by the targets (although not perfect), would assume a responsibility as part of a broader regional community to facilitate housing needs. Such an effort would ideally improve greater choice of housing throughout the region. Municipal actions could be related to local regulations to facilitate affordable housing to working with or applying for grant assistance in conjunction with various housing providers.

### **11.3 Policies and Actions**

1. In cooperation with the region's towns, the BCRC should conduct and periodically update the 1996 region-wide housing needs analysis.
2. Any affordable housing project that is developed with significant public involvement (e.g., financing, special zoning regulations, etc.) should include provisions to ensure long-term affordability.
3. The BCRC and individual towns should continue to support and work with the Regional Affordable Housing Corporation and other nonprofit housing organizations and land trusts.

4. Municipalities should develop housing plans that include an identification of any affordable housing issue in their community, an assessment of resources available to address the problem, widespread public involvement, and a plan of action.
5. Towns should pursue grants and loans from organizations such as the DHCA Vermont Community Development Program and the Housing and Conservation Trust Fund to assist in the development or preservation of affordable housing.
6. Municipal land use regulations should provide for affordable housing by allowing high density, apartments (& accessory apartments), and multi-family development in appropriate locations. Inclusionary zoning provisions, linkage requirements, and creative use of transferable development rights programs are additional ways to promote affordable housing development. Towns should also review procedural permitting requirements to ensure that unreasonable obstacles to affordable housing development do not exist.
7. Municipal capital planning efforts should include the objective of providing adequate infrastructure in designated growth areas to support the development of affordable housing.
8. Special consideration should be given to projects that include affordable housing when determining sewer and water allocations.
9. Towns should seek opportunities for "infill" housing and housing in mixed-use developments, especially in village and urban areas.
10. With the supply of housing units already quite limited in central business districts and other commercial areas, towns should take steps to discourage the conversion of housing units to non-residential uses.
11. Towns should determine whether municipal resources (e.g., publicly owned land or buildings) could be used to minimize the cost of developing affordable housing units.
12. Support should be given to organizations and programs that seek to rehabilitate existing substandard housing units.

A booklet, "Planning for Affordable Housing," that explains municipal housing strategies in greater detail is available from the Department of Housing and Community Affairs. Vermont's regional commissions have also collected and distributed a number of resource documents with recommendations for communities.

## **XII. COORDINATION AND IMPLEMENTATION**

### **12.1 Coordination**

Consistency and coordination in planning activities are important in at least three levels. Planning efforts in the Bennington region should be consistent with the plans and development patterns of adjacent regions. Individual municipalities must be able to communicate with one another and work cooperatively on matters whose impacts reach beyond town boundaries. Finally, it is imperative that state agency plans and projects give due consideration to local and regional concerns. Efforts to achieve this interjurisdictional compatibility are enhanced by the presence of the twelve common planning goals that are clearly set forth in 24 V.S.A. Section 4302. Regional planning commissions can also play an important role in promoting compatibility, and the BCRC intends to continue its efforts in this regard.

The Bennington region shares a common border with two other planning regions in the State of Vermont. Rutland County lies north of the Bennington County towns of Rupert, Dorset, and Peru. Two state highways, Route 7 and Route 30, connect the regions. It is possible that certain developments in one region will affect towns in the neighboring region. A significant element in the natural and cultural landscape of both regions is the rich agricultural valley lying along the Mettowee River. The BCRC and the Rutland Regional Planning Commission have both worked with the Mettowee Valley Conservation Project on land preservation efforts in the valley. The Green and Taconic Mountains and the lands of the National Forest represent another resource shared between the two regions. The Long Trail, running along the spine of the Green Mountains, is a unique connector between the regions. Cooperative planning among regional planning commissions and the United States Forest Service will help promote the best use of these forest lands.

The Windham region, bordering the Bennington region on the east, also contains contiguous lands in the Green Mountain National Forest, and the Windham Regional Planning Commission should therefore be involved in inter-regional forest land planning discussions. The three principal alpine ski areas in southern Vermont – Stratton Mountain, Mount Snow/Haystack, and Bromley – all lie near the boundary between the Bennington and Windham regions. Development at these areas is obviously an issue that can have impacts in the adjacent region; vehicular traffic from Stratton is evident in Manchester, for example, and may affect the use of the Kelly Stand Road in Sunderland. The two state highways connecting the regions, Route 11 and Route 9, are the principal conduits for inter-regional traffic flow. The BCRC and the Windham Regional Planning Commission have cooperated in planning for improvements along the Route 9 corridor. Most recently, the Commissions are jointly sponsoring a proposal that will lead to the designation of Route 9 as a Vermont Scenic Byway. The scenic byways program recognizes significant cultural, historic, recreation, and aesthetic qualities of the corridor. The designation can also lead to federal funding for certain types of improvements consistent with the management objectives of the corridor. If the study is funded, a two-county committee will be formed to provide oversight of the project.

The Bennington region also borders Berkshire County in Massachusetts, and Rensselaer and Washington Counties in New York. Common planning concerns with these regions are no less significant than those that exist within Vermont. The Batten Kill and the Hoosic River, for example, course across state lines and have recently been the subject of special studies on both sides of the Vermont border. The need for cooperation in transportation planning has been illustrated by Route 279 (currently under construction), which connects to New York Route 7 in Hoosick. Bennington County is also downwind of air pollution

sources located in eastern New York, a fact that has been the subject of considerable concern in a past proposal to build a large coal-burning power plant in Saratoga County.

The above are but a few examples of the types of issues that can best be addressed at a regional level, and through cooperation among the interested regional and state agencies and commissions. The BCRC should maintain an on-going dialogue with regional planners in these nearby areas and identify potential issues of inter-regional significance. Special studies and actions may then be cooperatively undertaken to address these concerns.

The BCRC has always had, as one of its principal functions, the facilitation of coordinated planning activities among municipalities in the region. The Regional Plan is intended to serve as a common framework for structuring growth and development throughout the region. Individual municipal plans have historically reflected the goals and policies of the Regional Plan. The BCRC should continue to work closely with municipalities to ensure that the concerns of local communities are reflected in the Regional Plan and that issues of regional importance are recognized by the towns and villages. The BCRC has a responsibility to consult, on a regular basis, with municipalities in the region to identify locally important issues and to verify that local plans are consistent with the statewide planning goals and compatible with other local plans. During these consultations issues of potential inter-town significance should be identified. The BCRC can then help facilitate discussions among affected towns and, if need be, organize cooperative planning studies. Programs and topics on particular issues affecting the region have been sponsored by the Commission – which affect municipalities, as well.

A critical component of Act 200 is the requirement that state agency plans be compatible with approved local and regional plans. These state agency plans must be consistent with the same planning goals as local and regional plans. State plans that outline objectives and identify proposed transportation projects, environmental programs, economic development initiatives, and other such activities can obviously exert profound impacts on towns and villages. These plans should be made available to all municipalities for review early on during their development. The BCRC should carefully review state agency plans for compatibility with the Regional Plan, and should assist municipalities in their review of those plans. The Commission may also act as an intermediary to help resolve potential conflicts when differences are found to exist between local and state plans.

## **12.2 Implementation**

The BCRC will need to engage in a number of activities, in addition to its coordinating function described above, to implement the Regional Plan. Those activities will be described in general here, while many specific policies and recommended actions are contained in individual chapters. This Plan should be reviewed each year when preparing the Commission's annual work program.

The BCRC has a responsibility to develop and maintain a regional plan and supporting programs, and to offer planning assistance to its member municipalities. Indeed, a majority of the policies and programs identified in this Plan will be most effective when implemented locally. Considerable emphasis, therefore, will continue to be placed on the many local assistance programs that have been a mainstay of regional planning in Bennington County.

- \* **Municipal Plans.** The BCRC will offer assistance to municipalities as they prepare new or updated plans. BCRC staff will help local planning commissions assemble and analyze data, conduct research and surveys, and prepare text and maps. Whenever requested by a municipality,

the BCRC will also review local plans to evaluate their consistency with the goals of 24 V.S.A. Section 4302, and their compatibility with the Regional Plan and the approved plans of other municipalities in the region. Currently, 13 of 17 municipalities have plans approved by the regional commission, which makes them eligible for the state municipal planning grant program (Appendix B-19).

- \* **Bylaws.** Every municipality in the Bennington region has a zoning bylaw in effect and many have subdivision regulations. The BCRC will work with individual towns to prepare new or amended zoning, subdivision, or other regulations that are determined to be necessary to respond to changing conditions and to implement the municipal plan.
- \* **Technical Bulletins.** The Regional Commission subscribes to the “Planning Commissioner’s Journal,” issued quarterly, and distributes copies to all municipalities. A new technical bulletin of the Commission, “Techniques,” needs to be regularly distributed covering topics of particular interest to municipalities. These bulletins may contain general discussions as well as model provisions that can help towns address issues of common concern.
- \* **Training.** The BCRC will organize, sponsor, and conduct workshops and training seminars for local officials. Regional Commissions in the state are cosponsoring workshops with the Vermont League of Cities and Towns (Vermont Interactive Television). RPC staff (including BCRC) are presenters at other statewide workshops such as the Municipal Officers Management Conferences. Topics discussed at past workshops were zoning administration, wireless communication facilities, development review boards, and procedures for planning commissions and boards of adjustment. Special sessions are sponsored to address an existing or emerging opportunity or problem – affordable housing, transportation. Meeting with local boards is often the most effective means of outreach and to address particular issues or concerns. The GIS specialist has assisted all communities with specific mapping needs and training of local officials.
- \* **Special Projects.** Many towns will want to undertake special planning studies to address a particular issue in their community. These projects may range from resource mapping to emergency (rapid) response plans, to transportation studies. The BCRC is available to assist towns either as a principal consultant or with technical and data support services.
- \* **Mapping.** In the fall of 1990, the BCRC became a regional service center in Vermont's Geographic Information System (GIS) network. The Commission has a full complement of GIS hardware and software and a planner trained in the operation of such systems. The BCRC has already undertaken several mapping projects for municipalities. As additional digital data is developed, a wide range of mapping and geographic analysis will be available to municipalities through the service center. The BCRC will also support GIS activities that occur in municipal planning and management offices in the region. Every effort will be made to ensure that this valuable planning tool is accessible to all municipalities in the region.
- \* **Grant assistance.** The BCRC will continue to assist municipalities in the preparation of applications for grants to support planning initiatives, housing or economic development projects, and other programs of public benefit. Some of the projects have included the regional consortium housing rehab program (First in the State award), The Equinox Hotel – Largest small city UDAG grant, nearly all of the municipal outdoor recreation parks, transportation enhancement grants, and a range of administrative support services for municipalities.

- \* **Collaboration.** BCRC's goals can also be achieved by close collaboration with other organizations. Combining resources can be an effective means of achieving a common interest and reinforce the commission's goals and programs. It also provides an opportunity to aggregate resources that might not otherwise be available.
- \* **Committee Assignments.** BCRC needs to evaluate the work of its committees and assignments annually. The Commissioner's Handbook, updated annually, identifies the mission, programs, and the committee structure. Special focus committees are established to address a particular issue of importance to the region. Some of the committees include: Executive, Transportation Advisory Committee (TAC), Small Fields, Village Green and Downtown Program, etc. Support is also provided to other committees such as the Public Transit Advisory Committee, Local Emergency Planning Council, and the Bennington Economic Development Committee.
- \* **Reviews of State Agency Plans.** It is important for the Commission to evaluate the effect of state agency plans and programs on municipalities and the region, and to provide responses accordingly. Recent state agency programs include: Revisions to the state on-site wastewater treatment rules, basin and watershed plans, state transportation plans, and legislative proposals.
- \* **Regulatory Reviews.** Under state law the BCRC is obligated to participate in various regulatory proceedings. BCRC needs to review Act 250 applications to determine compatibility with the Regional Plan policies. BCRC should also be active in proceedings that have a bearing on the region: Department of Public Service (248), Water Resources Board, and Rules put forward by state agencies. In addition to participation in regulatory proceedings, the BCRC should be available and seek out opportunities to be of assistance to developers and others, and if appropriate, facilitate resolutions for pending conflict or litigation.

A final avenue used by the BCRC to implement the Regional Plan is to carry out planning studies dealing with regional resources and issues. The purpose of these studies is to acquire information and develop analyses to assure that important regional issues are addressed in the most appropriate fashion. Examples of recent or potential regional planning endeavors include: solid waste management, impact of Forest Service land acquisition in the Taconic Range, recreational use of the Batten Kill, transportation needs, and affordable housing. The BCRC should seek to identify other issues of regional import, and assemble interested persons and expertise to address them. The BCRC should also support organizations that are set up to implement particular aspects of such plans (e.g., RAHC - housing; BCIC - industrial development). It is also imperative that the BCRC participate, and encourage public involvement, in regional planning studies undertaken by state and federal agencies (e.g., Vermont Agency of Transportation, United States Forest Service).

### **Substantial Regional Impact:**

As a regional planning commission, the BCRC is of course particularly interested in developments whose impacts are regional in scope. Such developments include both projects that are beneficial to the region, as well as those that may have some negative impacts. Projects of regional impact are particularly important in state regulatory proceedings. If a conflict exists between a municipal plan and the Regional Plan, for example, the Regional Plan will be given effect in certain proceedings provided that the project under consideration would have a substantial regional impact. According to 24 V.S.A. Section 4345(a), each regional planning commission must define "substantial regional impact." A development is

considered as having a substantial regional impact when it is determined by the BCRC to have one or more of the following characteristics:

1. A development that may modify existing settlement patterns by:
  - a) locating in an area that does not currently contain development of a similar type or scale; or
  - b) locating in a remote area, including any permanent development in an Upland Forest area; or
  - c) a large-scale development occurring outside an established growth center.
2. A development that may significantly affect the capacity of regional public facilities and/or require their expansion, extension, or relocation by significantly increasing traffic on area roadways, generating large quantities of solid waste, creating high energy demands, or adding a substantial number of students to a regional educational facility.
3. A development that would significantly impact the region's economy by affecting the cost or availability of affordable housing in the region, affecting the cost or availability of energy in the region, creating a large number of new jobs, or initiating a new sector of economic activity in the region.
4. A development that may impact any regionally significant natural or cultural resource. These resources include, but are not limited to: wildlife habitat, sand and gravel resources, important hydrological resources, unique and fragile natural areas, public water supply watersheds and wellhead protection areas, prime agricultural and forest resources, important scenic resources, and historic and archaeological resources.
5. A development that involves the construction of, or which would significantly impact the function of, important regional facilities including, but not limited to: state highways, educational institutions, hospitals, recreational facilities, solid waste facilities, energy generation or transmission facilities, regional water or sewer facilities, bridges, dams, and airports.
6. A residential, commercial, or industrial development that, because of its large size, will result in impacts that will be felt beyond the municipal borders.
7. A development lying within two or more municipalities, or a development dependent upon the infrastructure or community services of a neighboring municipality.

## **APPENDIX A**

### **Regional Plan Maps**

- Land Use Plan
- Public Facilities
- Public Utilities
- Existing Transportation System
- Important Wildlife Habitats
- Surface Water Classifications
- Wetlands and Flood Plains
- Agricultural Soils
- Steep Slopes and High Elevations
- Sand and Gravel Resources
- Wind Resources

## APPENDIX B

- B-0 Households by Town 1990-2010
- B-1 2000 Census Profile
- B-2 The Regional Profile – Contents, 1999
- B-3 Bennington County – Town Employment 1988-1998
- B-4a Employment by Industry 2000
- B-4b Employment, Establishments, Wages 2004
- B-5 BCIC Economic Goals
- B-6 Bennington Economic Development Committee Goals 2001/2002/2003
- B-7 Sample Commercial-Industrial Data Base, 1999
- B-8 Growth Centers
- B-9 Smart Growth Scorecard
- B-10 Transit Providers
- B-11 Transit Routes
- B-12 School Enrollments
- B-13 Telecommunication Providers
- B-14 Telecommunication Act – 1996 Municipal Guide
- B-15 Telecommunication Infrastructure Photos
- B-16 Rapid Response Plans & Codes-Standards
- B-17 Rapid Response Map
- B-18 Housing Tables H-1 – H-8
- B-19 Municipal Plan Review Process & Confirmations

### MISCELLANEOUS

- B-20 BCRC Web Site
- B-21 Title 24 VSA Municipal-Regional Planning Goals
- B-22 Act 250 Criteria
- B-23 Unorganized Town of Glastenbury

## **Unorganized Town of Glastenbury**

The Town of Glastenbury is one of five unorganized towns in the State of Vermont. Pursuant to V.S.A. Title 24 Chapter 43, the Governor appoints a Supervisor of unorganized towns in each county. Acting within their general duties, the Town Supervisor appointed the Bennington County Regional Commission to act as Glastenbury's Planning Commission. The Zoning Board of Adjustment and the Zoning Administrator are also appointed by the Town Supervisor. Rickey Harrington is the current Glastenbury Town Supervisor.

In 1990 BCRC organized a Glastenbury Town Plan Committee to guide the town planning process. This committee was comprised of the Town Supervisor, Glastenbury residents and landowners, and public officials, planners, or private citizens from the Towns of Woodford, Bennington, Shaftsbury, Arlington, Sunderland, and Sandgate. The committee held a public meeting during which a slide show entitled "The Ghost Town of Glastenbury, Then and Now" explained the intriguing history of the Town as well as the need for the Town Plan. Sixty four people, including citizens from surrounding towns and members of special interest groups, attended this public meeting. Many questions, comments, and concerns were expressed at this time. The first Glastenbury Town Plan was adopted November 28, 1990. An amended Town Plan was adopted July 14, 2005.

The Glastenbury Zoning Board of Adjustment members include Tyler Resch, Ellen Viereck, Barbara MacIntyre, and Cinda Morse. The Zoning Administrator is James Henderson. In 2006 the ZBA completed a comprehensive review of the Glastenbury Zoning Bylaws. The amended Bylaws were adopted May 4, 2006.