

Municipal Plan
of the
Town of
Belvidere, Vermont
2005-2010

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Planning Commission Note:

The Planning Commission of Belvidere has prepared the following plan as authorized in Section 4381 of Chapter 117 of Title 24, Vermont Statutes Annotated. It includes the sections as specified in Section 4383 of that law.

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I. OBJECTIVES

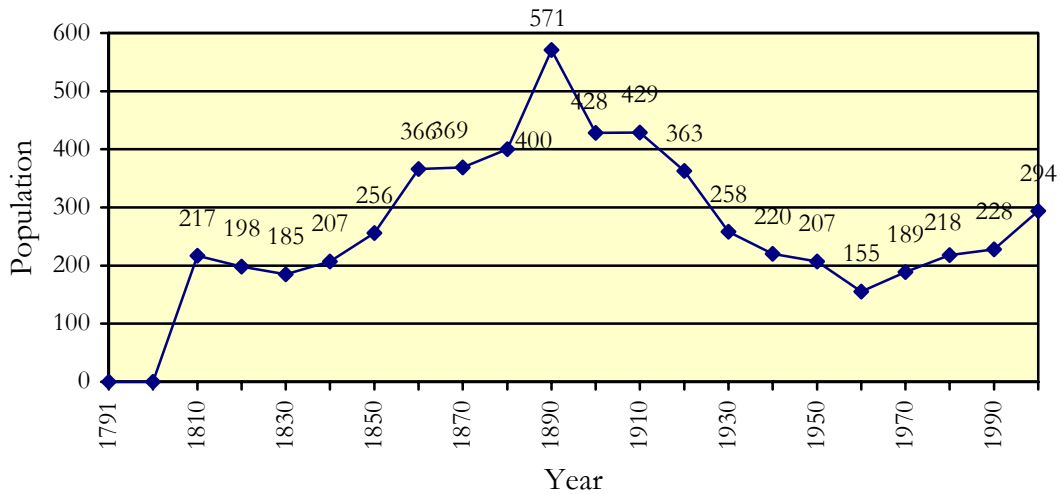
The goals of the Belvidere Town Plan are:

1. To control the growth of the town in such a way as to enable residents to continue to live in Belvidere without undue tax burden.
2. To encourage growth of the town in such areas and under such conditions that the demand for increased services will not significantly raise the tax burden for existing residents.
3. To regulate growth so that:
 - a. Areas of natural beauty and wildlife habitat are not adversely affected but rather enhanced, encouraged, and maintained.
 - b. Timberland management is economically feasible in the wooded area.
 - c. Agricultural use of land is encouraged and protected.
 - d. Residential and commercial growth is permitted in suitable areas.
 - e. Land use decisions are directed by residents and not outside interests.

II. POPULATION AND GROWTH

Population information is some of the most basic and important data needed in order to plan for a community. Historical growth trends, the age structure, and future predictions are just a few pieces of information which can help decision makers in guiding the future of Belvidere. Knowing the number of residents in Belvidere, for example, is necessary in order to evaluate the amount of services required. Forecasting future changes in the population, meanwhile, allows the town to look ahead and prepare for the next five or ten years. This is especially important when preparing for the number of students expected in the school system in the next few years.

Figure 1. Population of Belvidere 1791-2000



Source: US Census

Historical Census Counts:

Since 1791 the U.S. Census Bureau has conducted an actual count of persons living in each town in the country. The historical data tells a story of our past. Although chartered in 1791, Belvidere was not settled until after the turn of the century. The population grew rapidly as families moved to the area and established homesteads and by 1810 the town had 217 residents. After two decades of decline, the population climbed until 1890 when Belvidere's population peaked at 571 residents.

A review of historical reports would be needed in order to accurately explain what happened around the turn of the century but it was most likely tied to the final clearing of the forestland and collapse of the timber industry in the region. From 1890 through 1960 the population dropped by nearly 75% to 155 persons. While the factors mentioned above were significant contributors, other aspects discouraged recovery. The 1927 flood, for one, washed out a number of mills, which were never replaced. Electricity was late in arriving to many corners of town, as were other amenities. While Belvidere Center had electricity since the end of World War II many homesteads were not put onto the grid until the 1950's. Roads, including Route 109, were unpaved making travel difficult

during certain times of year. Route 109 was last unpaved state highway in the State of Vermont and was finally completed in the 1980's.

The introduction of these amenities to Belvidere and very low land prices during the 1960's and 70's brought about an increase in population. Growth during the 1980's was tempered by people moving out of town for job opportunities elsewhere in the region. Fueled by rising land prices elsewhere in the region the population grew faster through the 1990's until, in 2000, the population was recorded at 294 – almost double what it was in 1960 but still only a little more than half of the population peak in 1890.

Components of Population Change:

Population change is the result of two sets of factors – natural increase and net migration. The population change shown on Table 1 is the difference between Census counts. In each of the past three decades the population has increased – from a low of only 10 more people in town in 1990 compared to 1980 to a high of 66 persons when the 2000 and 1990 Census are compared.

Table 1. Changes in population between Census counts from 1970-2000.

<i>Period</i>	<i>Change in population</i>	<i>Percent change</i>
1970-1980	+ 29	15.3 %
1980-1990	+ 10	4.6 %
1990-2000	+ 66	28.9 %

Source: US Census (1970-2000)

Populations increase naturally when more people are born over a certain time period than die. The Vermont Department of Health has kept birth and death statistics for each town since 1857. Table 2 shows the number of recorded births and deaths in the town of Belvidere in each of the past three decades. One observation of this table is that the growth due to natural causes has been steadily climbing since 1970. If this trend were to continue, it would result in moderate population growth in the future.

Table 2. Population change due to natural increase

<i>Period</i>	<i>Births</i>	<i>Deaths</i>	<i>Increase</i>	<i>% population change due to natural increase</i>
1970-1980	35	24	11	5.8 %
1980-1990	43	27	16	7.3 %
1990-2000	39*	13*	26*	11.4 %

Source: Vermont Department of Health Vital Statistics (1970-2000)

*Approximate values based on individual reports.

Net migration is the second factor affecting population change. This information is determined by subtracting the natural increase from the total change in population. For example, it is known from Census data that there was an increase of 29 persons in Belvidere between 1970 and 1980 (see Table 1). It was determined that, of the 29 persons, 11 were the result of natural increase (see Table 2) therefore the other 18 were the result of migration (see Table 3). Unlike natural increase, net migration has varied greatly. During the 1980's, six more people moved out of town

than moved in. By comparison, forty more people moved into town in the 1990's. These differences could make predicting future growth rates for Belvidere difficult. If the current high migration rates continue, the population will grow rapidly. A change in economic winds, as we saw in the 1980's, could result in net migrations being steady or declining resulting in moderate to slow growth.

Table 3. Net migration

<i>Period</i>	<i>Net migration</i>	<i>% population change due to net migration</i>
1970 – 1980	18	9.5 %
1980 – 1990	-6	-2.8%
1990 – 2000	40	17.5 %

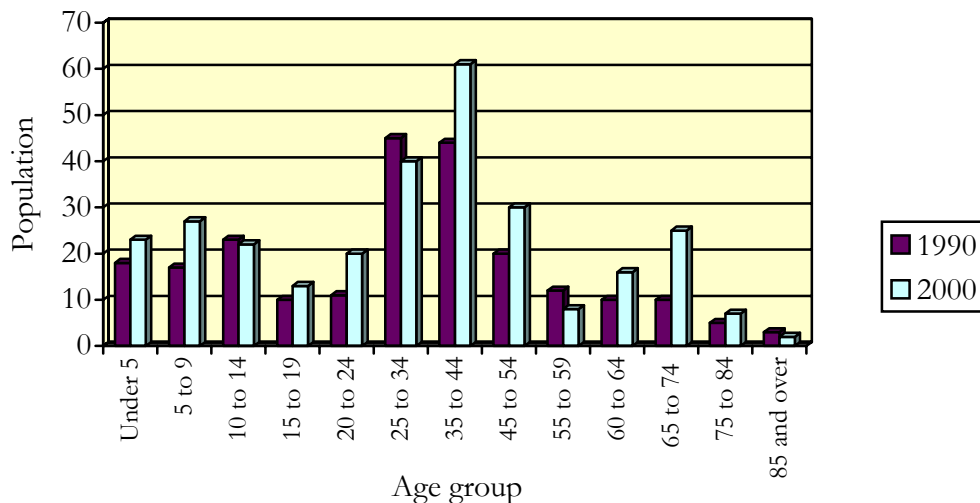
Over the past thirty years, the increase in population has been split evenly between natural increase and migration. Since 1970, the population has increased by 105 persons of which there was a natural increase of 53 persons and a net migration of 52 persons. While similar in their overall effect on growth, one key difference between the two components of change is that the natural increase has been steady while the net migration has fluctuated greatly.

Current Population and Age Distribution:

The most recent population count for Belvidere is 294 persons (U.S. Census 2000). The median age for the town is 35.2 years old, which is 2.5 years younger than the state average and 1.3 years younger than Lamoille County as a whole.

Age distribution is important in order to predict future service needs, especially schools. Breakdowns by age categories are shown in Figure 2 along side comparable numbers from 1990. Some important observations are the modest increase in children under the age of ten, the dramatic increase in the middle age groups (35 to 54), and the increase in the 'early retirement' ages (60 to 74).

Figure 2. Population by age groups in Belvidere 1990-2000



Source: U.S. Census 1990, 2000.

Each of these observations is important. While there is a modest increase in school age children, there does not exist a prominent spike in those age groups. This should indicate a gradual increase in the number of students from year to year but nothing dramatic. The increase in the 35 to 54 year old age group is important because this age group is not likely to have more children. Based on this, we would expect that growth by natural increase would be slowing over time. Finally, the increase in the early retirement groups may indicate a need for new services in the future, which have not been needed previously.

Regional and Neighborhood Populations:

Belvidere is surrounded by rural communities all of which are experiencing extraordinary growth rates. While the state grew by 8.2% and Lamoille County at greater than double that, Belvidere and the other small communities grew at rates in excess of 20% (see Table 4). The only exception is the Town of Johnson, which grew at a rate of 3.7% and was significantly larger than the other communities.

Table 4. Populations and percent change since 1990 for Belvidere and neighboring towns.

<i>Town</i>	<i>1990 Population</i>	<i>2000 Population</i>	<i>% Change 90-00</i>
Bakersfield	977	1,215	24.4
Belvidere	228	294	28.9
Eden	840	1,152	37.1
Johnson	3,156	3,274	3.7
Montgomery	823	992	20.5
Waterville	532	697	31.0
Lamoille County	19,735	23,233	17.7
State of Vermont	562,758	608,827	8.2

Source: U.S. Census 1990, 2000

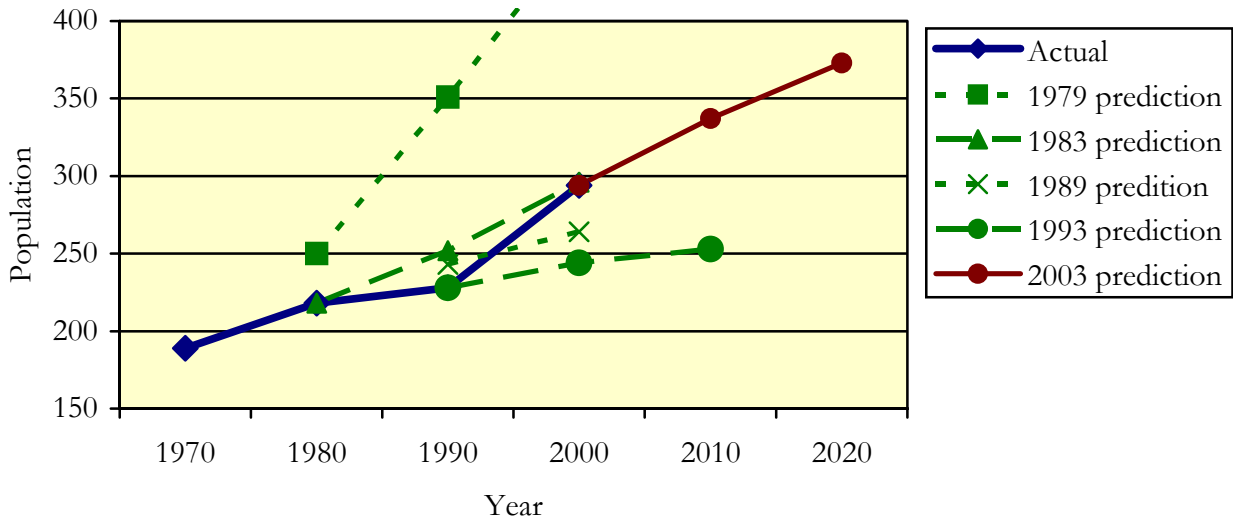
Table 4 clearly indicates that Belvidere’s growth rate is part of a regional trend. This means that Belvidere’s high growth rate is likely to have more to do with regional issues such as the housing shortage in Chittenden County and a strong economy in the late 1990’s than programs or policies particular to Belvidere. This would also indicate that Belvidere would need to watch regional trends in order to be prepared for any rapid growth spikes in the future.

Future Population Predictions:

Various agencies in state government periodically make future population predictions based on complex models that factor in expected fertility and mortality rates for the town as well as projected migration into or out of the town. It should be noted that population projections are expectations of what might occur. As with any prediction, the accuracy depends on the validity of its underlying assumptions. While imprecise, they can give an idea of where the overall population may be heading.

Since 1970 there have been five official population forecasts. An early prediction from 1979 was for Belvidere to grow at a tremendous rate and have 458 residents by the year 2000 (see Figure 3). In 1983 the predicted growth rate was adjusted down (which incidentally turned out to correctly predict the population in the 2000 Census). Just before and, again, just after the 1990 Census the state released two more predictions each time adjusting the predicted growth rate down. Finally in 2003, the prediction was made for modest growth through 2020.

Figure 3. Population Predictions for the Town of Belvidere



Sources: The People Book – Vermont Population Projections 1980-2000 (Vermont State Planning Office 1979); Vermont Population Projections 1985-2000 (Vermont Department of Health 1983); Vermont Population Projections 1990-2005 (Office of Policy Research and Coordination 1989); Vermont Population Projections 1990-2015 (Vermont Health Care Authority 1993); Mizer projections (2003).

Comparing the actual 2000 Census figures to the earlier predictions it can be concluded that the state has difficulty forecasting future population growth in Belvidere. The models used by the state had a problem accounting for new people moving to the area. When large numbers of person were moving into Belvidere in the 1970’s the state predicted high growth in the 1980’s. When more people moved out of town than into town during the 1980’s the state predicted that trend would continue.

The 2003 predictions expect Belvidere to have a 14.6% increase over the next ten years and 27% growth between 2000 and 2020. While this is a moderate growth rate, it is important to remember the lessons from previous predictions; to be learned careful when viewing population forecasts considering how inaccurate the state predictions have been over the past 20 years with regards to Belvidere.

GOALS, POLICIES, AND RECOMMENDATIONS:

In order to accomplish the Primary Goal of this town plan - to control the growth of the town in such a way as to enable residents to continue to live in Belvidere without undue tax burdens – the town will need to monitor growth rates in order to anticipate situations that may impact tax rates. State population forecasts will also offer some perspective into potential future population

growth but, as mentioned earlier, the state has had many problems making accurate predictions with regards to Belvidere.

It is not the intention of Belvidere to stop growth. The Planning Commission and Selectboard intend only to moderate growth to prevent the need to increase taxes to provide new or expanded services. New growth and development should not place an undue burden on services and facilities.

Population and Growth Goal

- For Belvidere’s population to have a slow to moderate growth rate so not to place a burden on the existing facilities and services. Growth should not exceed the Town’s ability to provide services to support the population.

The Town has developed the following policies in order to guard against rapid growth over a short period of time. Until other land use regulations are adopted, the town will be limited to commenting on Act 250 proceedings therefore any application should be reviewed in light of these policies. The policies were drafted in the effort to guard against rapid population growth over a short period of time – major subdivision of lots for development and conversion of seasonal to year round dwellings for instance. The seasonal camps are a concern because 35% of dwellings in Belvidere are camps. If a large number of these were converted to year round occupancy over a short period of time it could cause serious growth related issues. The conversion of large single-family homes to multifamily homes is discouraged for similar reasons.

Policies

- Major subdivisions (creating 4 or more lots for sale or development from one lot within five years) are not permitted as that will have the effect of increasing residents too quickly for Belvidere to accommodate. Major subdivisions, if allowed, should be phased over a few years so as to not overburden the town’s services and facilities.
- Belvidere discourages the conversion of seasonal dwellings to year round dwellings although property owners are not prohibited from doing so provided they meet septic standards.
- Belvidere discourages the conversion of single-family homes to multifamily structures. Again, property owners are not prohibited from doing so provided they meet septic standards.

The recommendations are for the planning commission to monitor future growth trends and be prepared to draft regulations if needed. The drafting of regulations is not seen as being needed at this time but would be considered as a future alternative.

Recommendations

- If the number of persons moving into Belvidere becomes a major issue over the next five years, the town should consider adopting growth management tools, such as subdivision regulations.

- The Planning Commission should review and amend the 'Future Population Predictions' information when figures are released by the State of Vermont, or other reliable source. This should be conducted, at minimum, every five years in association with the update of the municipal plan.
- The Town should review the annual population estimates released by the Department of Health to ensure growth rates are not outside of the town's expectations. These figures are published annually in 'Population & Housing Estimates' brochures released in the fall of the following year.
- Belvidere should monitor the rate of conversion of seasonal dwellings to year round dwellings. A high conversion rate can increase the resident population quickly due to the high proportion of camps when compared to permanent homes.
- The Planning Commission should review all 'Act 250' applications for its impact on the growth of the town. Where the application is determined to not conform to this chapter or any goal or policy, the Planning Commission should participate in the 'Act 250' process in order to ensure the concerns of the town are addressed.

III. NATURAL RESOURCES

It is impossible to plan for the future of Belvidere without first discussing the natural resources that helped build the town and sustains it today. The land resources, including gravel deposits and agricultural soils, are the foundation of Belvidere's working landscape. Rivers, streams, and ponds as well as our groundwater are very clean and used by residents for day-to-day living as well as recreation. Finally, the abundant forests and clean water have provided the town a healthy ecosystem with habitat for wildlife and timber resources for management.

Land resources are the foundation of the local economy - providing ample gravel deposits for use by local officials and residents as well as prime soil conditions for forest management. Characteristics of the landscape, such as the topography and soil types, help determine such important factors as septic suitability and also identify limitations to development such as steep slopes and shallow soils. An understanding of the earth and soil resources as well as topography is therefore critical to any land use planning efforts.

The North Branch and other water resources are very clean and provide recreational opportunities to residents and visitors including fishing, swimming and kayaking. It is far easier to maintain Belvidere's water than to clean it up if polluted. The residents of town have inherited clean water and they need to ensure future generations receive the same valuable resource.

The Town of Belvidere lies in the biophysical region known as the northern Green Mountains. With elevations ranging between 680 and 3,260 feet, Belvidere experiences a variety of weather conditions. Combined with other natural factors including soil types, slope, and aspect to the sun, these conditions have resulted in a wide variety of plant and animal communities in town. In fact, Belvidere Bog is a natural treasure containing many rare and endangered plant species. Overwhelmingly forested, the town is home to bears, moose, deer, fisher cats, and many other species of wildlife. These provide recreational opportunities to residents and visitors through hunting or by simply viewing from the windows of our homes.

Through a good land ethic in the past, Belvidere has a clean and healthy environment in which to work, live, and play. These same traditions continue today as Belvidere enters the twenty first century with sustainable forest management, hunting, and fishing. Continuing to be good stewards of our environment will allow us to pass along these resources to future generations.

A. LAND RESOURCES.

Land or earth resources are generally discussed in three topics- the geology, the topography, and the soils. Each of these features provides opportunities and constraints to current and future use of the land.

Geology:

Following the last glaciation some 14,000 years ago all that remained in the area between the Cold Hollow Mountains and Laraway Mountain was bedrock and the glacial deposits of sand, gravel,

and till. This base material was critical in determining the types of soil that developed later over these areas. Although soil has developed over the geologic materials, the combined effects of the bedrock geology and the surficial geology have an important effect in determining the plant communities, water availability, and mineral resources that exist in Belvidere. Thousands of years later, these same materials remain as a resource for use or sale by residents today. While some of our geologic resources have been extracted, much of it remains in the ground available to future generations. While providing resources, the geology of an area may present significant limitation if hazardous conditions exist such as fault lines and unstable surface materials.

Bedrock

Belvidere's bedrock is defined as "interbedded, pale silver-gray to green, carbonaceous and non-carbonaceous schists" except for a small portion of town east of Route 118 as it enters Montgomery, which is defined as "interbedded phyllites, schists, and quartzites" (*Geology for Environmental Planning in the Johnson-Hardwick Region, Vermont* 1974). This is important because of what is not associated with these bedrock types – quarry stone and minerals. A detailed Bedrock Geology Map was released in 1998 for the southern part of Belvidere and is available for review.

One of Vermont's many trademark products known around the world is our marble and granite. Belvidere's bedrock is such that quarry stones like these are not found. Talc is a soft pale green mineral found in parts of Lamoille County associated with ancient ocean crusts (known as serpentinized ultramafic rocks). These formations tend to be on the east facing slopes of the Green Mountains such as the Johnson Talc sites in Johnson and the GAF asbestos mine in Eden/ Lowell. This bedrock type is present only in very limited locations including, small deposits near the Eden town line (see the Bedrock Geology Map). Minerals, therefore, may be present at the higher elevations in this area. While mineral rights have been purchased in places in town, based on the geologic evidence it is unlikely large outcrops of talc or other minerals will be present.

As of 2002, only one Mineral Resource Data Sheet (MRDS) was recorded at the Vermont Geological Survey from Belvidere. A small, 'unnamed galena occurrence' was located in the southern most corner of town near the Long Trail. The commodity associated with this mineral outcropping is lead. It appears from the maps associated with the report that the deposit is now on land owned by the State of Vermont within the Long Trail State Forest. Due to the small size, elevation and location of the deposit, and proximity to the Long Trail the mineral ore identified in MRDS #AM85MD475 would not be a candidate for extraction.

Surface materials

While Belvidere is unlikely to possess bedrock resources, it does contain resources associated with glacial deposits. Belvidere has six types of surface materials present. A thin layer of **glacial till** covers the bedrock in the upland regions. Much of the bedrock is exposed and the materials unsorted, poorly drained and bouldery. Moving closer to the valleys are **ice contact gravel**, mostly kame terraces. The materials are well sorted, may have high sand content and are a good gravel source. **Lacustrine sands and gravels** are found along the North Branch on the steep slopes north and east of Belvidere Junction. Predominantly sand and pebbly sand, these areas are good sources for sand. Not coincidentally, the Tatro pit and the Town of Belvidere gravel pit are found in these deposits. **Peat and Muck** are associated with swampy, poorly drained areas such as Belvidere Bog and the surroundings. **Recent stream alluvium** deposits are located in association with the North Branch of the Lamoille River. They are generally poorly drained. The final surficial material found in

Belvidere is some **lacustrine clays and silts** located in a very small area beneath Belvidere Junction and west to the Waterville town line.

As resources, the ice contact gravel and lacustrine sands and gravels are both surface materials containing sand and gravel suitable for extraction. As sand and gravel are created from glacial outwash, they are essentially, non-renewable resources. Sand and gravel are important resources due to their use in the construction of roads and other projects. Areas likely to be gravel rich should be identified and noted so that the resource can be extracted, as it is needed in the future.

Use of earth resources

Of concern is that earth resources are finite and once depleted cannot be replaced. Additionally, development near or over the resource may, in effect, make the extraction impossible in the future. Therefore any construction over an earth resource should account for the potential loss of that resource. The state has estimated that 31% of all sand and gravel deposits in Vermont are now inaccessible due to state regulations including water supply protection, critical wildlife habitat, conserved lands, and other factors (*Aggregate Resources of Vermont, VT Geological Survey 1993*). Current developments over deposits have further limited the availability of the resource. This has only happened to a limited degree in Belvidere although these sites are being sought out by developers due to their ability to handle leach fields for septic systems.

While a necessary resource for construction, earth resource extraction and/or processing activities have a high potential for becoming a substantial nuisance in the area where such activities are located. There is a potential for problems in any of the following areas:

- Noise, dust and air pollution or radiation;
- Surface and groundwater pollution, siltation or radiation;
- Storage and disposal of waste materials, both solid and liquid;
- Increased stormwater runoff, erosion and sedimentation;
- Spoiling of the landscape and limited utility for subsequent uses of the site;
- Decreased highway safety and increased municipal costs due to increased traffic and accelerated deterioration of highways and bridges attributed to the transportation activities generated by the earth resource operations;
- Reduced property values because of primary or secondary impacts of the proposed earth resource operations.

All these factors, single and together, may act to substantially depreciate land values in the immediate vicinity of such activities and the town in general.

The Lamoille County Planning Commission completed a study in 1989 that identified existing gravel pits and areas of likely gravel deposits (identified on the Surficial Geology Resources Map). The following is from that report:

“Belvidere is relatively undeveloped consequently it could be beneficial for the town to purchase land along Route 109 for a future municipal resource before conflicts begin to occur. Bog Road is a natural area and gravel rich. Due to this non-compatible situation gravel users should seek resources elsewhere.”

In 2002, the Belvidere Planning Commission revisited these findings to plan for future use of the gravel resources. The gravel pits located on the Surficial Geology Resource Map are based on the findings of this review. As indicated on the map, there are 22 active or inactive gravel pits identified in Belvidere. A majority of these are inactive and some have been reclaimed. Table 5 identifies the owner of the site, its current status, and any other general comments on quantity or quality of materials. Active pits may be Commercial, Municipal, or for Personal use. Inactive sites are either Reclaimed or Not Reclaimed. Site tests would be required to determine the quantity and quality of any sand or gravel but generalizations can be made based on the Soil Resources Map and table of active and inactive gravel sites in town.

Table 5. Belvidere gravel sites – 2002.

<i>Site #</i>	<i>Name of site</i>	<i>Status</i>	<i>General comments</i>
1	Town of Waterville	Inactive- Municipal	
2	G.W. Tatro	Active- Commercial	Act 250 permit
3	Town of Belvidere	Active- Municipal	Twenty year supply
4	Winnie Lanpher	Inactive- Reclaimed	
5	Edsel Rich	Inactive- Reclaimed	Some personal use
6	Brian Loucks	Inactive- Reclaimed	
7	Warren	Inactive- Not reclaimed	Some personal use
8	Schroeder, Lague, J+H Bowdy	Active- Personal	
9	Mark Schroder	Inactive	
10	James + Debbie Baker	Inactive- Reclaimed	
11	State of Vermont	Inactive- Reclaimed	
12	Steve Locke	Inactive	
13	Bob Tanner	Active- Commercial	Grand fathered
14	Brown farm	Inactive- Reclaimed	
15	Brown farm	Inactive- Reclaimed	
16	Brown farm	Inactive- Reclaimed	
17	Laraway Mountain Ltd.	Inactive- Not reclaimed	Some personal use
18	Kneen	Active- Personal	
19	Meyers	Active- Personal	
20	Airstrip pit (State)	Inactive- Reclaimed	
21	Art St. Onge	Active- Personal	
22	Laraway Mountain Ltd.	Inactive- Not reclaimed	Some personal use

Source: Personal communication with residents and owners- 2002.

The town's gravel pit (at the old dump) is estimated to have twenty years of material remaining at current extraction rates. The town is therefore looking to secure a long-term supply in town through purchase of another site. Based on the expected areas of gravel deposits and locations of existing or inactive sites, it is recommended that the Selectboard investigate some other sites along Route 109 north of Belvidere Center or adjacent to the current pit.

Permitting

For all the reasons mentioned above, gravel extraction operations are highly regulated by the state in the Act 250 process. Unless in continuous operation since June 1970, any **commercial** earth extraction operation **on a lot** greater than 1 acre must receive a state Act 250 permit [check with the District 5 Environmental Commission for exceptions and details]. The Environmental Commission

is responsible for ensuring all operations will not have an undue harmful impact on the environment or surrounding lands and that a plan for site rehabilitation exists that ensures the land will be returned to a useable state. Currently the only permitted gravel extraction operation is the G. W. Tatro pit off of the Back Road near Belvidere Junction.

Municipal gravel pits only need permits if the **area of disturbance** is greater than 10 acres. If the municipality wishes to sell gravel then they will need a permit the same as other commercial operations. Currently the Town of Waterville has an inactive pit and the Town of Belvidere has a pit less than 10 acres in size (see #1 and #3 on the Surficial Geology Resources Map for locations). The Belvidere Pit is on a 19-acre lot but the area of disturbance is less than 10 acres and therefore qualifies for the Act 250 municipal exemption. Although exempt from Act 250 oversight, both Belvidere and Waterville should have a plan for their sites that address environmental impacts as well as future restoration.

Belvidere has the option to regulate gravel operations locally if zoning bylaws are adopted although most operations currently appear to be conducted in a responsible manner and, therefore, such steps are not necessary. While choosing not to regulate gravel operations locally, the town should review any Act 250 proposals in light of the discussion above. During an Act 250 project, the town may choose to comment at the Environmental Board hearing if either a non-extraction proposal (residential subdivision for instance) will prevent the future use of an important earth resource or the project is an extraction proposal so as to ensure the responsible extraction and reclamation of the site. Contact the District 5 Environmental Commission with any Act 250 application questions.

In summary, the town has two responsibilities. First, Belvidere needs to be vigilant in its oversight of earth resource extraction operations to prevent the creation of a nuisance. This can be accomplished by monitoring and, if necessary, regulating extraction sites so that conflicts between operators and neighbors do not occur. And second, the town needs to protect the resource to ensure its availability for future residents. In order to achieve this goal, the town should purchase a gravel pit for municipal use and provide information to land owners regarding their earth resources in order to make informed decisions about the future use of the land.

Geologic hazards and limitations

There are two geological hazards that exist in the state of Vermont – earthquakes and landslides. Lamoille County has experienced both of these in recent year although Belvidere does not appear to have areas at risk of these hazards. Failure of the land along the hillside behind Jeffersonville in 1999 resulted in the loss of a home as well as significant cleanup. An earthquake centered in northern New York shook homes all across Vermont in 2002 but no damage occurred in Belvidere.

General construction conditions were determined for Belvidere based on surface geology according to their general suitability for foundations and structural loads. Not surprisingly, areas in wetlands and the floodplain were found to be unsuitable for foundations due to drainage issues. The Bedrock Geology Map for Belvidere identifies bedrock outcrops, which will also present development limitations especially with respect to foundations and septic suitability.

Topography:

Lands over 2,500 feet

The hills and mountains of Belvidere provide a beautiful backdrop to the town. The factors that combine to make this effect also present limitations to development. For decades, Vermont has set a boundary statewide regarding development at 2,500-foot elevation. These areas typically are slower to recover from disturbance and are at greater risk to erosion. All development, including forestry operations, requires an Act 250 permit for projects over 2,500 feet. Two summits in the Cold Hollow Mountains as well as the summit of Laraway Mountain and Butternut Mountain are over 2,500 feet (see Topographic Limitations Map).

Steep slopes

A second factor presenting considerable limitations to development is steep slopes. “Steep slopes” are defined as land having a slope greater than 30% grade over a distance of at least 50 feet. Some soil types, particularly clay, are unstable even at slopes as shallow as 5-8%. Based on Belvidere’s soil types this is not expected to be an issue. The sand, gravel, and bouldery soils found in town are typically stable to 30% provided they have some vegetation cover (i.e. grass or trees). Sandy slopes can remain stable up to 50% if left undisturbed.

Steep slopes present problems when they are cleared for development or timber extraction as soil erosion is increased when vegetation is removed. Belvidere has many areas that are considered to have steep slopes. These areas are identified on the Topographic Limitations Map. Belvidere also has many ‘extremely steep slopes’, which are identified on the map as being over 45% slopes. These areas are generally associated with mountainsides, higher elevations and shallow soils, which compounds the risk. These areas should be set aside, whether through purchase of the property or purchase of development rights, to protect the soil resources and water quality.

Unlike land over 2,500 feet, development on steep slopes are not regulated automatically by the state. Regulation of steep slopes is generally a local responsibility (regulated through zoning bylaws). The town will need to monitor development to decide if regulations will be required to prevent irresponsible practices.

Soil Resources.

Soil types

The soil structure attributes in Belvidere provide both opportunities and limitations to construction and agriculture. Depending on the physical and natural processes that formed the soils, they may have differing depth, composition, texture and layering. Soils also vary in how easily they absorb water and in their load-bearing capacity. Soils that pose limits to development are often characterized by excessive slope, shallow depth to bedrock, high seasonal water, instability or high erosion potential. Soils also have qualities that make them productive for timber and agricultural products. The four main soil associations found in Belvidere are outlined below.

Adams/Colton/Duxbury. This soil type can be level to steep and is characterized by excessively to well-drained sandy soils. They formed on the old deltas, terraces, and beaches and are therefore associated with the main sources of sand and gravel in town. Steeper areas are usually woodland while less steep areas are used for crops and home sites. These soils are found along the

North Branch except in the Belvidere Center area.

Lyman/Tunbridge. This soil association can be moderately deep in the level areas to shallow on steeper regions. The soil is described as being well drained to somewhat excessively drained loamy soil. It can be used for farming on the lower slopes but development is limited by depth to bedrock on slopes. It is found on the steeper hills and mountains around Belvidere.

Berkshire/Marlow/Peru. This soil association is, again, deep in level areas and shallow on steeper slopes. This soil is also described as being well drained to somewhat poorly drained loamy soil. It can be used for cropping and trees but the pan and slope limit the developability. It is also suitable for wildlife habitat, recreation and woodland. These soils can be found in the throughout the center of town, extending into Belvidere Basin and along Route 109 from Belvidere Center to Belvidere Junction.

Londonderry/ Stratton/ Ricker. These soils are shallow to very shallow, sloping to steep, well-drained, loamy and organic soils. In Belvidere these soils are found only on the highest areas of Cold Hollow Mountain. As these soils are very shallow (around 9 inches to bedrock), very erodable, and generally found on steep slopes, they can only be used for wildlife habitat. Logging operations will generally result in severe erosion.

Soil opportunities and limitations.

Development limitations are shown on the Development Limitations Map. This map highlights areas with steep slopes (20%-30% slopes, 30%-45% slopes, and >45% slopes), floodplains, and areas over 2,500-foot elevation. This map is not intended to infer that development is not possible on a site in these highlighted areas. It should be interpreted that development in these areas may need special construction, careful siting, or be of a limited extent or scale. Each property should be examined individually for limitations based on the characteristics above.

Soils may also present opportunities due to their characteristics. Prime agricultural and forestry soils are shown alongside sand and gravel (discussed above) on the Soil Resources Map. These are the valuable and non-renewable soil resources that need to be protected for use in agriculture and forestry.

Use and Conservation of Soil Resources

Soil provides the medium and nutrients for growth, and crops grow best where these conditions are ideal. Prime and statewide significant soils have been classified based on these and other criteria. Whether the crop is hay, corn, or trees, the best use for that soil resource is agriculture or forestry. As a limited resource, management and conservation are the keys to long-term sustainability. Agricultural and forestry as a land use will be discussed again in the land use chapter of this plan.

An examination of the location of the managed forestlands with respect to the location of prime forest soil resources is important to keeping the best soils in forestry and not development. Similarly, parcel and soils data can be studied to determine if agricultural soils are located on large blocks of land that are being (or could be) farmed.

Accepted Agricultural Practices (AAPs) are designed to ensure soil conservation and all farms are required to meet these standards. The Planning Commission would recommend that

farmers use Best Management Practices (BMPs) where technically and economically feasible. BMPs are not required but offer better protection of the soil resource and will protect other resources as well including water. Where a farmer would like assistance to achieve some or all of the BMPs the planning commission will be available to assist them by contacting other regional and state organizations with the resources to assist.

Foresters have a similar set of practices to follow in order to conserve soil resources. Accepted Management Practices (AMPs) are the required methods and practices established to protect soil and water. Similarly, forestry has a voluntary set of Best Management Practices for construction on forestry sites. Again, any foresters interested in obtaining more information or assistance in establishing BMPs at their sites should contact the planning commission for assistance.

Soil resource protection

Prime agricultural and forest soils need to be protected from development similar to sand and gravel. Subdivision of land and development of residential properties prevents efficient management of the working landscape. The best way to protect land resources from development is to ensure the working landscape is economically feasible and provides the landowner with a stable income. There are three tools that help make agriculture and forestry more economically feasible- Current Use Assessment, Purchase of Development Rights, and land use regulations.

Use Value Assessment (UVA) Program. The current use or UVA Program has grown to be quite popular among Belvidere property owners. In 2002 there were a total of 23 properties participating from Belvidere and included 10,859 acres or 48 percent of the entire town. UVA may be used for either agricultural or forest land but, in the case of Belvidere, a majority of the properties are forested (9,837 acres of productive forestland, 859 acres of non-productive forestland, 80 acres greater than one mile from roads, and 62 acres agriculture).

Purchase of Development Rights. The most well known group involved in the purchase of development rights is the Vermont Land Trust. In a purchase of development rights, the right to develop or subdivide a parcel is bought by another party. The amount paid depends on the value of the potential development. In this way the farmer or forester receives extra money they need while still retaining the farm or forest. In addition, the property now has a lower appraised value resulting in lower property taxes. The obvious problem with purchase of development rights is the cost. In order to protect a large amount of land, one needs a huge sum of money. Also, the landowner must want to sell the rights - all purchases are willing buyer/willing seller.

Belvidere may want to consider forming a conservation commission to purchase development rights on their own. In that way the town would own the development rights instead of a non-profit organization. The money to purchase properties or development rights can come from grants and funding institutions around the state.

Land Use Regulations. Zoning and subdivision regulations are less effective in regulating development of important land resource parcels, but are also far less expensive. These types of regulations can guide development to ensure certain goals are accomplished. One valuable tool is Planned Residential Developments where developable lots are clustered to protect open space or other objectives. This type of flexible zoning tool allows the same number of developable lots as traditional subdivisions except that it also keeps the fields open and forests unfragmented.

B. WATER RESOURCES

Water resources take on a variety of forms and functions. They provide rivers upon which to boat, fish and swim; groundwater to drink; and wetlands to store floodwaters and filter natural and man-made contaminants. Water resources provide numerous habitats for a variety of aquatic and riparian plant and animal communities, and support economic activities such as fishing.

Water resources also sometimes end up serving as repositories for pollutants from runoff and leaking storage tanks including pesticides, herbicides, sediments, landfills, septic systems and underground storage tanks. These contaminants kill fish and plants, destroy existing and potential drinking water supplies and preclude recreational activities. Belvidere has been fortunate that the rivers and streams in town have avoided these sorts of serious contamination issues.

Rivers and Streams:

Belvidere is fortunate to have abundant riparian resources. Its numerous brooks, streams and rivers helped shape the local landscape and the historic mill economy on the North Branch.

The North Branch Lamoille River flows from east to west across the center of Belvidere. The North Branch originates in Eden and flows into Lamoille River at Cambridge. Except for a few high elevation locations, most of the streams in Belvidere drain into the North Branch (see watershed lines on Water Resources Map). Some northern slopes of the Cold Hollow Mountains drain north into West Hill Brook, Cold Hollow Brook, Cooks Brook, and Ross Brook- eventually making their way to the Missisquoi River. The South Branch of the Trout River begins in Belvidere before exiting into Montgomery along Route 118 and entering the Missisquoi in Berkshire. The South Branch drains some of the wetlands in the Belvidere Corners area especially during periods of high water.

The largest brooks in Belvidere are the Streeter Brook, North Fork, Rattling Brook, Otter Brook, and Calavale Brook from the north; and the Basin Brook from the south.

Riparian Habitats

Plant life such as trees, shrubs, grasses and herbs along stream banks and river corridors serve to provide both food and shelter for a great many wildlife species. According to a 1986 study of Vermont's rivers, several of Vermont's wildlife groups are highly dependant on riparian areas for their habitat needs. The following Belvidere rivers and streams were noted as important habitat for water dependant species (information from *Vermont Rivers Study*, Vermont Agency of Natural Resources, 1986.):

<u>Waterway</u>	<u>Species</u>
• North Branch Lamoille River	Deer
• North Fork	Deer

Since that report, other species, including moose, have become abundant in town and are closely associated with the waterways in town.

Significant River Feature: Kelly River Falls

Kelly River Falls is a small set of cascades adjacent to Belvidere Junction just north of Route 109. The *Waterfalls, Cascades and Gorges of Vermont* survey conducted in 1987 and later the *Waterfalls, Cascades and Gorges of Lamoille County* in 1991 identifies this area as having local importance. The falls are a popular place for fishing and swimming. The shores are privately owned and the owners do not have them posted. The landowners maintain the area- keeping it clean and discouraging noisy and messy users.

Whitewater Boating

The North Branch of the Lamoille River is a challenging and noteworthy stretch of whitewater enjoyed by many kayakers and canoers. This 9-mile or so stretch of river was not described in the 1989 *Whitewater Rivers of Vermont* publication but was brought to the Vermont Department of Environmental Conservation (DEC)'s attention in 1993. Boaters put in below Long Pond in Belvidere Corners at the Route 118 bridge and go through a Class III or IV gorge, travel a 6-mile stretch of Class II whitewater and then are challenged by another stretch of Class III/IV water upstream from Waterville. It is described as having "excellent to outstanding" scenery and as "pristine". (Reprinted with corrections from the *Lamoille River Watershed Assessment Report* (2001)).

Lakes and Ponds:

Belvidere has no lakes and only a few small ponds in town. The only named pond is Lost Pond, which can be found at the headwaters of Rattling Brook. Off in the woods and near the top of a hill, the appropriately named pond is far from any roads. Although not officially named, McGookin Pond off Route 118 is of similar size and is also in a very isolated spot.

Wetlands:

The term wetland is used to refer to areas that are inundated with water either seasonally or year-round. They are commonly referred to as swamps, marshes, bogs, fens or other such names. Wetlands share three basic characteristics:

1. The presence of water at or near the ground surface.
2. The presence of water dependant plants occurring on site; and
3. Common types of soil that have formed as a result of the presence of water.

Wetlands serve a number of important functions, including stormwater retention, erosion control, ground water recharge, and wildlife habitat. The U.S. Department of the Interior has mapped wetlands and each town has a set of National Wetlands Inventory Maps. These maps were made using aerial photos. They are useful for assessing the general character of a particular area, but are not accurate enough to determine the nature of a particular property without a site visit.

Vermont's wetland regulations are based upon the National Wetlands Inventory. They designate all of the wetlands identified by the inventory in Belvidere as Class II, and require a 50-foot vegetated buffer between the wetland and any adjacent land development. If any area is determined to be of importance, the town may request Class I designation and will receive a 100

foot buffer protection.

Belvidere Bog is one of two wetlands singled out as significant by the Lamoille River Watershed Assessment Report in 2001 for the Northern Green Mountain Region. The Belvidere Bog wetland complex is located at the headwaters of the North Branch and is approximately 375 acres. A number of wetland types are present in this complex including shrub swamp, cedar swamp, shallow marsh, mixed shrub swamps, deep marsh, a rare dwarf-shrub bog community and numerous beaver ponds. The wetland complex is highly significant for its size, diversity and function in the watershed. The Belvidere Bog wetland complex has been rated highly significant for cold-water fishery habitat, water quality protection, erosion control, education, recreation, and wildlife habitat. The wetland complex is considered habitat for the state's endangered common loon (*Gavia immer*), the endangered Southern Twayblade orchid (*Listeria australis*), and also was rated as a high quality northern level bog. The size of the wetland complex and the undisturbed area surrounding the complex makes this area suitable for wildlife species that need large ranges such as black bear, bobcat and moose.

There are two ways Belvidere Bog can be protected. The first is to encourage purchase by the Agency of Natural Resources of the bog and surrounding buffer area. Currently only a portion of the wetland complex are owned publicly. The second set of protection methods is to petition the state to have Belvidere Bog declared a Class I wetland and request its inclusion on the Fragile Areas Registry. This will provide greater protection from encroachment and identify the area as being significant.

Flood Hazard Areas:

Floodplains are land areas adjacent to waterbodies, primarily rivers, which are subject to seasonal or periodic flooding. These areas store runoff during heavy rains and spring thaws, thus slowing the velocity of water flowing downstream. Gradual release of stormwater minimizes erosion, streambank scouring and downstream flooding. Floodplains also provide important recreational, agricultural, aesthetic, drainage, and wildlife functions. The continuation of each of these functions requires consideration of the watercourses and their associated shorelines when designing for construction in their vicinity.

Floodplains are considered unsuitable for development for several reasons: potential danger to life and property, loss of flood water storage, effects on channel capacity and down stream communities, and improper functioning of subsurface sewage disposal systems when there are high water tables. However, floodplain areas are usually prime agricultural land due to the highly productive nature of the soils, and can serve as recreation sites such as parks and ballfields.

Other flood hazards result from flashflood situations in particular along steeper stream sections. Clearing of vegetation cover and constructing impervious surfaces, like roofs and parking lots, increases storm runoff particularly in higher elevations. To prevent flash flood situations, developments cannot increase the volume or velocity of streams. Channelizing and straightening streams increases stream velocity and increases the risk of flash floods. Many times roads and driveways up steep hills create perfect conditions for flash floods because they are designed to rapidly drain water from the surface and send it downhill in a straight steep ditch.

The Better Backroads Program from the state has road standards to avoid erosion and flashfloods resulting from road design and construction. In 2002 the selectboard improved Boarding Hill Road with rock lined ditches and new culverts using funds supplied by the Better Backroads Program. This road had been experiencing routine washouts during heavy storm events. It is hoped that with these improvements, costs will be saved on repairs and water quality of the North Branch will be maintained. Belvidere has adopted driveway standards to protect against washouts. The selectboard should consider adopting state road standards so that any new roads, public or private, will be constructed to avoid flooding.

Flood hazard areas in Belvidere are associated with most of the length of the North Branch from Belvidere Center to the Morgan Bridge (see the Topographic Limitations Map). The wetlands around Belvidere Corners are also prone to flooding and have a flood hazard area. The flood hazard areas are shown on the maps associated with this plan and are based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps which can be found in the Town Clerk's office. Belvidere adopted flood hazard area zoning in 2000, which regulates the use and construction of structures in the flood hazard areas.

The Town of Belvidere has few structures in the flood hazard areas. The Planning Commission should review the bylaws periodically to ensure the regulations are sufficient to protect the public interest. The current bylaws prohibit some construction in the flood plain but filling in the flood hazard area is allowed. This omission should be reviewed in light of evidence that filling flood plains in one area raises floodwaters on neighboring lands. With so much land in town out of the flood hazard area, it doesn't make sense to be building so close to a fragile and dangerous area.

Groundwater Resources:

Groundwater is the source for over 90% of the drinking water for rural communities in Vermont. It is replenished through rain and surface waters which percolate through the soil. Any activity which introduces contaminants directly into the ground (such as underground storage tanks, septic disposal fields, and agricultural activities) can affect groundwater quality. Since surface waters may also travel underground, surface water quality may affect groundwater quality as well.

Since all water in Belvidere is provided through private wells and springs, it is important to protect the quality of well water through appropriate separation between wellheads and septic disposal fields and other hazards (see A2 designation below if there are any surface drinking water supplies in town). All wells and springs are required to meet Vermont's Water Supply Rules.

According to the Vermont Geological Survey, the lands along Route 109 between Rattling Brook and Belvidere Corners have soil and geological characteristics that provide the best potential for groundwater.

Public groundwater sources in Vermont are assigned Wellhead Protection Areas (WHPA). WHPA's are defined as the surface and subsurface area surrounding a water body or well field supplying water for a public water system. The state Agency of Natural Resources (ANR) is responsible for the Vermont Wellhead Protection Program. A public water supply is defined as one serving ten or more connections or 25 or more people. Well locations and WHPA locations are confidential information. Anyone interested in this type of information may contact the Department

of Environmental Conservation- Water Supply Division.

Without detailed information about the direction of groundwater flow in Belvidere and surrounding communities, it is vital that all groundwater recharge areas town-wide be protected from activities that could contaminate the drinking water supply of residences.

Water Quality:

Vermont's waters are classified according to a system that establishes goals to be attained or minimum standards to maintain, depending upon the present quality of a particular section of water.

Assessments done during the *Lamoille County Stream Stability Assessment* (LCPC 2000) found that the North Branch is in excellent condition from its headwaters to Belvidere and in good condition through Belvidere. The section of the North Branch has very stable and in near-reference condition. The North Branch exhibits excellent riparian corridor quality, access to its flood plain, and little channel and bank erosion.

Fish and macro invertebrate sampling was done on the North Branch in Belvidere during September 1992. A memo on the fish sample results stated: "the water appears to be a tannic color with low to moderate alkalinity. The physical habitat of the section was characterized by minimal sedimentation and a boulder-cobble-course gravel substrate. The population integrity was rated excellent due to the dominance of benthic insectivores combined with a strong presence of three trout species. Four of seven species collected were considered intolerant to general pollution effects... The Vermont Index of Biological Integrity rated excellent (43 out of a possible 45)." The macro-invertebrate community also was rated to be in excellent condition. (From the *Lamoille River Watershed Assessment Report*- 2001).

Until recently, the Vermont Surface Water Management designation included two classes: A and B. Now, water is classified into five groups: class A(1), A(2), B(1), B(2), and B(3) depending on their management plan. Class A waters were divided into two subclasses: A(1) and A(2). Presently in the state, waters above 2,500 feet in elevation are classified as A(1) by Vermont Statute. The management objectives for A(1) water is to maintain their natural condition. Waters used as public water supplies are classified A(2). All remaining waters are class B waters. As a part of the Water Quality Standards revisions in 2000, the system was changed to divide Class B waters into three management types: B(1), B(2), and B(3). These new classifications are being assigned through the state's Watershed Planning Initiative as required by the Water Quality Standards. The state's Watershed Planning Initiative is presently (2002) working on the Lamoille River Basin Plan, which Belvidere is a part of.

The typing system (as it is termed) for class B waters is, for the most part, maintenance of acceptable conditions of water quality criteria such as aquatic biota, aquatic habitat, and recreational opportunities. A simplification of the B(1), B(2), and B(3) designations would be to say that the spectrum from B(3) to B(1) is described as "good," "better," and "best" aquatic conditions. All class B waters must still support the designated uses described in the Vermont Water Quality Standards for Class B waters, which includes suitability for boating, swimming, and drinking with treatment.

There was an effort to classify the North Branch of the Lamoille River as a Class A1 water in

the early to mid-90s. Despite a number of letters from residents, private consultants, and state officials supporting reclassification, the process was never completed and the petition never filed with the Board. The Planning Commission and Selectboard should consider working with DEC's watershed coordinator to establish surface water management goals of B1 for the North Branch and some of its tributaries as the water quality is such that it could support such a designation.

While the shoreline is in excellent condition there are no regulations in effect to prevent encroachment or other threats to the health of the river. Enforcement of the on-site septic and floodplain regulations are important to protecting water quality but additional shoreline regulations would better protect this resource.

Two issues have been in the press over the past few years with regards to water quality – agricultural runoff and stormwater runoff from impervious surfaces such as roads, parking lots and roofs. Neither of these sources of pollution are having a significant impact on our streams and rivers although runoff from forestry could be important if Accepted Management Practices (AMPs) are not followed.

The Department of Agriculture has produced 'accepted' and 'best' management practices for farms and silvicultural operations (AAPs and BMPs are also discussed above in soil resources). The primary concern with agricultural runoff is nutrient loading into the streams causing algae and biological pollution down stream. Where farms are believed to be having an impact on water quality, BMPs and other measure can be used to help prevent the runoff from entering the streams. Belvidere has no dairy operations and the existing farms are generally small. Complying with AMPs and BMPs should, therefore, not be difficult. The Planning Commission will assist landowners who are looking to adopt management practices that prevent agricultural runoff with information and direction to USDA in Morrisville. There are many other organizations in Lamoille County also willing to contribute supplies and expertise to resolve water quality issues if the interest exists.

Runoff from logging operations will have impacts on water quality if erosion increases sediment runoff into streams and wetlands. Use of AMPs and BMPs mitigate these effects. Most loggers are aware of these requirements and comply with them. Anyone looking for information or assistance in complying with these standards should contact the County Forester for information.

Stormwater runoff is also not a significant problem in Belvidere especially when compared to communities that have large commercial centers and the associated parking lots. New changes in state regulation are requiring tighter regulation of this issue. Using some basic development standards should prevent this from becoming an issue. Developers who 1) setback projects at least 50 feet from streams and 2) avoid channelizing runoff will be helping to ensure stormwater runoff does not enter waterways. These rules can be required through zoning bylaws but educating landowners can work effectively as well. Addressing the stormwater issue now is far easier than trying to go back and retrofit old developments as is being proposed in other communities.

C. FRAGILE & NATURAL AREAS AND WILDLIFE RESOURCES

Fragile & Natural Areas.

In 1976, the State of Vermont created an inventory of significant natural areas throughout

the state. While natural area designation does not provide a site with any additional protection from development, it does act as a tool for increasing local knowledge of Vermont's important natural heritage. Only three sites in Belvidere were placed on the Natural Areas Inventory and none of these were placed on the Fragile Areas Registry. The sites placed on the Natural Areas Registry include:

Belvidere Swamp (Bog)

As discussed above in water resources, Belvidere Bog is approximately 375 acres of wetlands including seven different communities. It contains endangered species and habitats and, while not on the Fragile Areas Registry, is likely a candidate for inclusion. The registry would require any state action or state owned lands to meet a water and land use plan. Private lands would not be required to meet standards although recommendations are made.

Deer Yards

The deer yards in Belvidere were placed on the Natural Area Inventory due to their crucial importance to the survival of deer in town in the winter. They are discussed further below.

Kelly River Falls

Kelly River Falls is a small set of cascades adjacent to Belvidere Junction just north of Route 109. As discussed in the water resources section, the falls have local importance. It is unlikely the area would qualify for the Fragile Area Registry.

Critical Wildlife Habitat in Belvidere:

Deer Wintering Areas

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

Bear Habitat

Bears require large areas of uninterrupted forestland for breeding. They also require travel corridors to move from one part of their habitat to another, especially as forested areas may be subdivided and developed. The Vermont Department of Fish and Wildlife prepared a map of black bear habitat in 1989 to indicate general areas of bear habitat. According to this map, all of Belvidere has been identified as bear habitat.

Rare & Endangered Species Habitat

Rare plants and animals are important for a variety of reasons. Some are indicators of unusual habitats or of colder (or warmer) climates in Vermont's distant past. Some serve as indicators of environmental quality. Some species may provide compounds for medicines or agricultural or industrial products. Finally, some are attractive and add beauty to the natural landscape. Many uncommon species will disappear if not recognized and given some form of local protection.

All of Belvidere's known rare and endangered species are associated with Belvidere Bog.

Protection of this area is vital to these species and the Planning Commission should coordinate with the state to ensure the long-term preservation of the site.

Fisheries

According to the 1986 Vermont Rivers Study, the North Branch has a naturally sustaining population of brown and brook trout along its entire length. State water quality records show that Belvidere Bog wetland complex has been rated highly significant for cold-water fishery habitat. Quality fisheries are important for recreation and for their role as a part of a healthy riparian environment.

CONCLUSIONS

Based on the findings of this chapter the land use plan should consider two districts to protect the natural resources of Belvidere- a natural areas district and a forest district. First, a natural areas district should be established that encompasses areas that are environmentally sensitive. Two areas stand out for consideration. Belvidere Bog is clearly a local treasure of statewide importance. Establishing a district to protect this area would be important to the long-term management of the area. Second are the high elevation areas of Cold Hollow and Laraway Mountains. Both of these mountaintops are over 2,500 feet, have shallow soils, are generally greater than 30 percent slope, and have erodable soils. While forested, these areas may not be appropriate for timber management due to the high risk of soil erosion. The land use plan should address mechanisms that would protect these areas without causing an undue burden on property owners.

The forest district is needed to protect the prime forestlands that exist in town today from fragmentation and development. These areas are the best land for timber management having forest soils, shallow slopes, and presently in large lots. While areas under 1,500-foot elevation may be appropriate for development, those above 1,500 feet should be conserved as working forestland (unless limited by the environmental concerns mentioned above). Again, any potential loss of development rights by property owners will need to be addressed in the implementation of the plan.

Within the development district, regulation of uses adjacent to streams and rivers would go a long way to protecting water quality, wildlife habitat, and the health and safety of the public.

GOALS, POLICIES, AND RECOMMENDATIONS.

This town plan has three goals concerning the natural resources- to regulate growth so that:

- Areas of natural beauty and wildlife habitat are not adversely affected but rather enhanced, encouraged and maintained.
- Timberland management is economically feasible in the wooded area.
- Agricultural use of land is encouraged and protected.

In order to achieve these goals, Belvidere needs to identify and protect the natural resources that make the foundation of the working landscape. Belvidere today has an abundance of resources from clean water to healthy forestland to natural areas. Belvidere has adopted three goals in hopes

that future generations not only have the same opportunities we have but are given a stronger healthy environment in which to work, live, and play.

Natural Resource Goals

- To use Belvidere’s earth resources conservatively for the benefit of existing and future generations and to conserve and enhance the agricultural and forestry soils in town today.
- For Belvidere’s water resources, including its ponds, streams, rivers, wetlands, groundwater, and associated habitats to be preserved and, where degraded, improved in order to ensure water quality for drinking, recreation, and the environment.
- To protect and maintain in a healthy condition natural areas and areas with significant ecological value including wetlands, uplands, and critical plant and animal habitats.

The Town has developed the following policies in order to guide development in such a way as to protect the natural resources and achieve the goals mentioned above. Until other land use regulations are adopted, the town will be limited to commenting on Act 250 proceedings therefore any application should be reviewed in light of these policies. Many of the policies are not burdensome and residents are asked to consider them in planning projects. If issues such as water quality, gravel operations that become a nuisance, or development that threatens our natural areas come to light, the planning commission should consider proposing regulations that would oversee projects in these areas.

Policies

Land Resources

- Earth resources (primarily gravel) should be identified and conserved until needed and reasonably developed in the public interest.
- Development that is proposed near or over important earth resources should account for the potential loss of that resource.
- Extraction and related processing operations will be permitted only when it has been demonstrated that there will be no undue adverse impacts on the town or its residents. Potential conflicts between current land use and proposed extraction operations will be minimized. Strict standards for the operation, maintenance, and restoration of extraction sites may be established as appropriate based on the unique conditions of the area affected. The full restoration of extraction sites will be ensured through the submission of site restoration plans.
- All development within the town must be pursued with strict regard to the capability of the soils to support it.
- Development on slopes greater than 30 percent are prohibited.
- Further fragmentation of productive agricultural and forestland is to be avoided; continued access to productive forest and farmland will be ensured.
- Development within forest areas will be sited to avoid taking forest soils out of production.

Water Resources

- Development near rivers and streams should be located in such a way as to minimize the number of stream crossings.

- A natural vegetative buffer 25 feet wide is required for all streams and 50 feet for the North Branch.
- All wetlands are required to have a 50-foot buffer. No filling or draining of wetlands is permitted. Belvidere Bog should have a 100-foot vegetative buffer.
- No structures should be constructed within a flood hazard area. Filling of the flood hazard area or obstructing the flow of floodwaters is also prohibited.
- Agriculture, recreation fields, parks, and open space are all appropriate uses of flood hazard area.
- No form of land waste disposal or storage of possible contaminants should be permitted in high water table and ground water recharge areas.
- All construction where soil is to be disturbed should provide adequate erosion control so that no soil moves off site or into surface waters or wetlands.
- Agriculture and forestry must abide by AAPs and AMPs. Where an activity may have a negative impact on water quality, BMPs are recommended.

Natural & Fragile Area

- Development within or proximate to Kelly River Falls and Belvidere Bog will take place in such a way as to preserve their value for education, science, research, aesthetics, and recreation.
- Deer wintering areas must be protected from development and other uses that threaten the ability of the habitat to support the species. Commercial, residential, and industrial development shall not occur in these areas. Development will be permitted adjacent to deer wintering areas only if it is demonstrated, in consultation with the Department of Fish and Wildlife, that the integrity of the area for deer habitat will be preserved.
- Rare, threatened and endangered plants and animals and their habitats will be protected and preserved through appropriate conservation techniques. Where appropriate a buffer strip should be designed and maintained to ensure protection.

The recommendations are for the select board to consider purchase of a gravel pit to meet long-term needs of the town. The planning commission has a variety of actions including assistance to landowners and consideration of reclassification of the North Branch and reclassification of Belvidere Bog. The town should consider forming a conservation commission to oversee the purchase of publicly owned lands and development rights in town.

Recommendations

Land Resources.

- The town should consider purchasing the rights to a gravel pit or to purchase a property with sufficient gravel resources to provide for the town's needs in the future.
- Municipal gravel pits in Belvidere should develop plans to address environmental impacts as well as future restoration of the sites.
- Farm and forestland owners are encouraged to participate in the UVA program.
- The Planning Commission should assist landowners interested in Accepted and Best Management Practices with information and resources.
- The town should support the efforts of organizations in the purchase of development rights and other conservation methods provided the land protected meets the objectives of this

plan. Where possible, the planning commission should review proposed purchases and comment based on the goals of this plan.

- Belvidere should consider forming a conservation commission in the future to purchase and hold development rights of farms and forestland within the town.

Water Resources.

- The planning commission should consider acquiring funds to have a wetland inventory of the town conducted.
- The town should consider purchasing properties or development rights of properties within the floodplain to permanently prevent development in those areas.
- The planning commission should consider creating a plan for the flood hazard areas to address recreational opportunities, flood hazard protection, and the potential for implementation of water quality measures.
- Belvidere should consider having the waters of the North Branch be reclassified as Class B-1 waters to protect water quality.
- Belvidere should continue to enforce the On-site Septic Ordinance in order to ensure septic systems are safe and do not create a water quality problem.

Natural & Fragile Areas.

- Belvidere supports the acquisition of lands within and around the Belvidere Bog by local or state conservation agencies.
- The town should petition the state to include Belvidere Bog on the Fragile Areas Registry as well as a Class I wetland so that the area is given the greatest amount of protection from any potential encroachment.
- As a result of living in Belvidere, many landowners have an ethic to be good stewards of the land. The Planning Commission recognizes that more can be accomplished by educating, advising, and assisting landowners with their natural and wildlife resource concerns than could be accomplished through regulations. The Planning Commission will support and provide guidance to any property owner with questions or concerns about their natural resources.

IV. EDUCATION

Current facilities.

The Waterville Central School will serve Belvidere's elementary students beginning in the fall of 2004. Tuitioning students to Waterville is planned as a temporary measure due to recent decreases in school enrollment in town. The issue of tuitioning students will be revisited at the end of each year to determine what is in the best interest of the students in town.

The Belvidere Central School facility remains available to the town for education and other purposes. The building was constructed during the summer and fall of 1995 and dedicated on December 10, 1995. The school was sited on an 83-acre parcel but an additional 10 acres was purchased a short time later in order to protect the water supply for the facility. The modern design of the building is energy efficient and meets all state safety and accessibility codes for educational facilities.

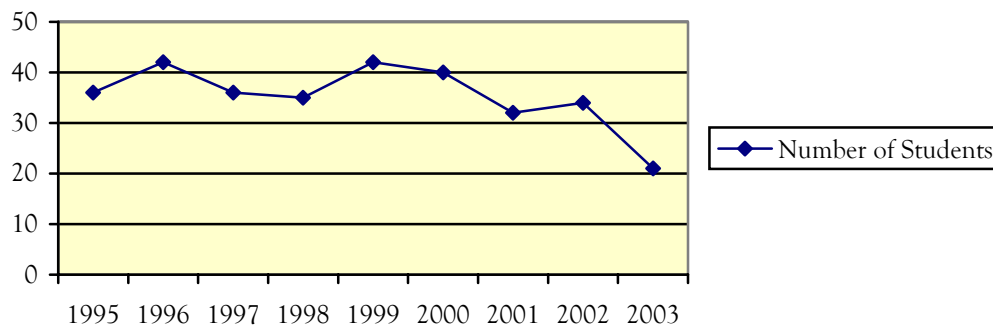
The Belvidere Central School is also designed and used as a community center and is designated as a FEMA emergency shelter for the Town. The facility is centrally located, away from natural hazards such as flood plains, and with direct frontage on Route 109 where emergency services will have easy access. The facility was fitted with a generator in 2003 to provide electricity in the event of power failure.

Students in grades seven through twelve are served by Lamoille Union Middle and High School (LUMHS) and the Green Mountain Technology and Career Center (GMTCC) located at a common site on Route 15 in Hyde Park.

Enrollment history and projections.

The figure below shows the enrollment at the new school since it's opening in the 1995 to 1996 school year.

Enrollment at the Belvidere Central School



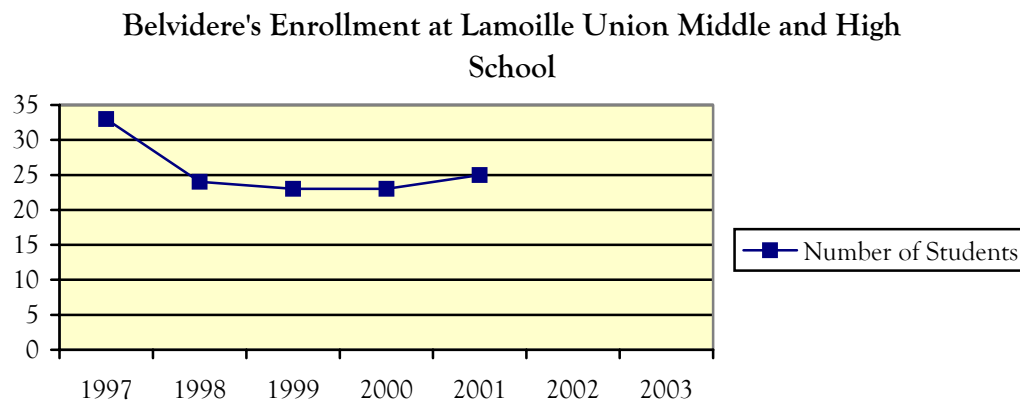
Source: Vermont Dept. of Education enrollment (ENRL)

The facility, designed to accommodate in excess of sixty students, should provide necessary space through the year 2015. In addition, design plans, core mechanical, and core facilities are all in

place for future expansion, and which could easily accommodate an additional 50 students providing for space needs through the year 2055.

Enrollment has been declining at the school since 1999. Projections for the short term are for enrollments to remain steady in the low 20s. As a result of the state education funding formula (based on a per pupil basis) the reduced enrollment led to difficulties in funding and the decision to temporarily close the school. This will be discussed in more detail under *Issues Surrounding Educational Facilities and Services*.

Lamoille Union Middle and High School accommodates approximately 900 students and is not considered to have a space problem at this time. LUMHS recently added a new wing on the school for seventh and eighth grades to alleviate the over crowding that had been a problem for years. Belvidere's enrollment at LUMHS is shown below.



Source: LUHS Annual Report 2002.

Current educational services.

Pre-school education has been found to be important to future success in school. Belvidere therefore offers pre-school to all three and four year olds who wish to attend. In addition to learning the three “Rs” Belvidere offers music, art, computers and other programs to inspire learning. In the year 2003-2004, the students at the Central School will be studying the history of Belvidere. Belvidere still continues its trips to Washington D.C. for fourth, fifth, and sixth grades every three years. This trip has been a tradition since 1990 and continues due to the hard work of fundraising by the students and parents.

Lamoille Union Middle School provides education to seventh and eighth grades and the High School provides for grades 9 through 12. Parents may also pay to send their children to private school or other public high school if accepted. GMTCC offers career and technical education to all incoming juniors and seniors as well as adult learners in the surrounding school district areas. There are programs in automotive technology, business administration, computers, forestry and land management, manufacturing technology, and health and human services among others.

Home schooling in Belvidere has been an option used by some families in recent years. The exact number of students being home schooled is not known so it is difficult to track changes. The Planning Commission is aware of several home-schooled children in town during the 2003-2004 year. Parents interested in home schooling their children must have a plan approved by the state. Although the town school district does not receive funding to help educate home-schooled students, Belvidere works to assist their efforts through access to services and resources such as music, the library, and extracurricular activities.

School governance.

Belvidere School Board is responsible for developing the budget and overseeing the administration of the school. The Board of Directors has three seats, each for a three-year term. Every Town Meeting one position is filled on this board.

Similarly the Lamoille Union Board of Directors is responsible for overseeing the budgets and administration of the Lamoille Union School District. There are twelve seats on the board of which Belvidere has one seat, which is elected at town meeting for a three-year term.

Education costs.

Cost of the facilities

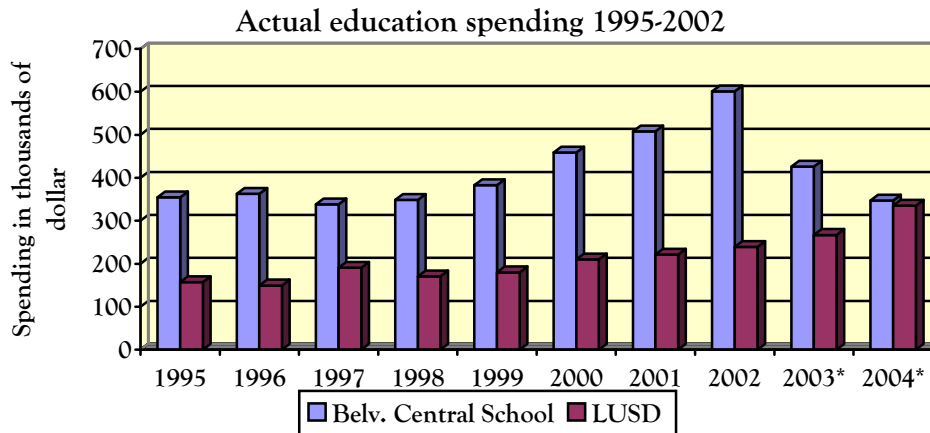
The bond on the Belvidere Central School is \$30,000 per year plus interest. The school bond has been paid annually since 1995-1996 school year and should be completely paid off by 2015. In the 2003 to 2004 budget the total bond payment was \$52,110. Of the total annual school budget, 7.6% is debt service.

The bond for Lamoille Union is more substantial. Nearly \$1 million dollars of the LUHS's \$8 million budget is debt service. Belvidere's share of debt service is paid through its assessment.

Cost of providing education

The cost of providing education has been increasing across the state and is routinely an area of debate at Town Meeting. The Belvidere Central School spending on education (including debt service discussed above) is shown below. As can be seen, spending increased dramatically between 1998 and 2001- a 45.7% increase in 3 years. Budgets for the coming years are forecasted to be lower. This will be important if education is to remain affordable. LUSD budgets have steadily climbed over the past ten years. From 1998 to 2001 the LUHS budget increased 29.6%.

In 1997 a new formula for funding education at the state level was adopted. Act 60, as it is most commonly known, established a statewide tax rate of \$1.10 for education. While originally benefiting Belvidere greatly, Act 60's benefits have become less apparent with increased local spending and decreased state contributions. In 2003, some major changes were made to the funding formula. First, there will be separate rates for residential and non-residential properties. The residential rate will vary depending on per pupil spending with the lowest rate at \$1.10. The non-residential rate will be a fixed rate at \$1.59. The second major change is that there will no longer be a statewide sharing pool.



Source: Town of Belvidere Annual Reports- *2004 & 05 figures are budgeted.

Comparing Belvidere to other small schools in union high schools on a per pupil basis, the town is in the middle- fourth out of eight schools (Windham, Grafton, and Brookline spent more while Sudbury, Whiting, West Haven and Woodford spent less). Of the 254 school districts in the state Belvidere ranked 38th highest per pupil spending. As a small school, Belvidere loses the benefit of economy of scale and is influenced greatly by changes in enrollment (see issues surround education below).

Issues surrounding educational facilities and services.

Decreased enrollment

Very small schools, like Belvidere Central School, are at financial risk due to changes in enrollment. Every school in Vermont is provided a block grant based on the number of students enrolled. As enrollment drops, there is less money coming from the state to pay for services. This requires the town to raise property taxes to make up for the lost revenue even if the budget remains the same or drops.

This scenario played out in Belvidere during the 2003-2004 school year. Enrollment from the previous year decreased 11 students (34% decrease) and meant a comparable loss in state funding dollars. Although some legislative changes have been proposed to help small schools adjust to fluctuations in enrollment, the Belvidere School Board has decided to tuition the remaining students to Waterville in the 2004-2005 school year. This could drop the cost per pupil from \$20,000 to \$7,500. Whether this becomes a short term or long-term solution is yet to be determined.

No Child Left Behind Legislation.

Belvidere Central School has been identified as a Priority School by the Vermont Department of Education. This designation is the result of low test-scores on the state standardized assessments. The Principal and School Board have developed a School Action Plan to establish a program to bring about positive change in the education of our students. Some of these actions have included the purchase of new books, a new literacy curriculum, and continued work on a revised

mathematics program and improved learning environment. The progress of this program will be evaluated annually and changes made as appropriate.

Significant accomplishments have already been achieved as 50 percent of the graduating sixth graders in 2003 received the Presidential Award for Outstanding Academic Excellence. Scores have improved in the language arts although mathematics continues to be subject requiring attention.

Other educational services and facilities.

Bussing.

Due to a lack of public transportation and the rural nature of Belvidere, the town provides bus service to students living on all roads except class 4 town highways and private roads. The town provides these services through a private contractor. Pupil transportation costs the town approximately \$30,000 per year. Limiting growth of the public road system will help keep bus routes as short as possible and minimize increases in transportation costs.

Bussing for high school students is guaranteed through the article of agreement between the Town and the Lamoille Union School District. The LUSD will only pick up students on Class 1 highways (Routes 109 and 118) therefore Belvidere sends a small bus around to the back roads to designated pickup points for pickup by the LUSD bus.

Libraries

Belvidere no longer has a public library and the library association is no longer active. Some books are still stored at the old South School from the library association that existed many years ago. The town should consider whether to recreate the association or perhaps join efforts with a neighboring community to provide residents with access to library facilities. The library at the Central School was expected to be publicly accessible when constructed although that has not occurred.

Colleges and adult education

There are a few places in Lamoille County where college level classes are available. In Morrisville the Community College of Vermont (CCV) has a satellite office where classes are taught. CCV currently has 350 students, most between the ages of 25 and 40 years old. CCV offers programs in business and liberal arts as well as a new program in nursing.

Johnson State College is a four-year liberal arts college that is part of the state college system and is located in the neighboring Town of Johnson.

As mentioned earlier, GMTCC offers adult education for anyone who is no longer enrolled in a traditional high school. Another resource for adult education is Central Vermont Adult Basic Education. CVABE is a non-profit organization that provides free instruction to individuals no longer enrolled in public school. In Lamoille County nearly 200 adults were served including three from Belvidere.

GOALS, POLICIES, AND RECOMMENDATIONS:

In order to accomplish the Primary Goal of this town plan - to control the growth of the town in such a way as to enable residents to continue to live in Belvidere without undue tax burdens – the town will need to plan for growth so that the costs of providing educational services are not expensive. Moderate growth should enable Belvidere to respond to changes in enrollment without causing problems. Growth should not exceed the capacity of the school before the bond is paid off in 2015.

Education Goal

- To plan for growth and development in a way that allows Belvidere to provide quality education services and adequate facilities for all local residents without placing an undue burden on tax payers.

The Town currently does not have any growth issues that will impact the education system. Unless enrollments increase dramatically in the next few years, the town will not oppose any development based on school capacity.

Policies

- Future development should not exceed the capacity of the town to provide educational services.
- Belvidere recognizes the importance to our community of high quality early education and daycare. Belvidere supports organizations that provide these services.
- Belvidere supports the GMTCC and their efforts to broaden access to education for adult learners and to provide vocational opportunities for students.

The recommendations are for the School Board and Principal to continue to advance the School Action Plan to ensure each student is given the attention needed to achieve success. The Planning Commission has a limited role in the implementation of the education plan. With the school enrollment in decline the planning commission should monitor future growth to see if this trend continues or reverses. The drafting of regulations is not seen as being needed at this time but would be considered as a future alternative.

Recommendations

- Belvidere continues to have an active role on the Board of Directors of LUHSD #18 and Lamaille North Supervisory Union.
- The Selectboard should continue their policies on not taking over private roads. This will help minimize the costs of bus transportation in the future.
- The town should urge our senator and representative to ensure the concerns of small schools, like ours, are not overlooked in State Education Funding formulas.
- If the number of persons moving into Belvidere becomes a major issue over the next five years, the town should consider adopting growth management tools, such as subdivision regulations.

V. FACILITIES AND SERVICES

A. FACILITIES

Water and Sewer

Water and sewer systems are privately owned with the exception of a public water system that serves the school. Individuals wanting to install a septic system or to work on their leach field need to receive a permit from the town sewage officer prior to doing any work, in accordance with the Belvidere sewage ordinance.

New water and wastewater rules established by the state in 2001 will have a profound impact on Belvidere when they are fully implemented in 2007. Alternative technologies will be permitted in town at that time and will allow septic systems in almost all areas of town. The Selectboard will need to pass new health ordinances if they want to maintain local control over permitting.

Changes in water supply rules have already gone into effect and have increased well shield protections. According to state rules, these well shields can impact a neighbors right to develop if they cross property lines. If Belvidere wants to prevent this from happening the town would need to adopt zoning or subdivision regulations. This should be discussed if well shields become an issue in town.

Telecommunication Facilities

Verizon owns and maintains the phone lines in Belvidere. There are no cable or T-1 lines located in town.

There are no wireless telecommunications facilities located in Belvidere. The town has limited wireless coverage due to the terrain and lack of operating towers. Belvidere does not have any telecommunication tower regulations to guide future development of these facilities but the town can participate in any Act 250 application for such facility. The town's policy is for towers to be allowed within the development and forest districts but not in the natural areas district or mountain district.

A privately owned telecommunication tower exists in town although there are no antennas located on it. According to the Lamoille County Public Safety Communications Study (2001), this site would provide good coverage for emergency services providers when responding to calls in Belvidere. The town currently has poor to non-existent coverage. Unfortunately it may be a long time before public safety communications are upgraded, due to the cost, but the town should make arrangements now to assure use of the tower in the future. Although this study was commissioned for public safety, a private telecommunications provider could be encouraged to locate on the tower in order to provide cellular service to residents as well.

Town Owned Buildings and Properties

The Town of Belvidere currently owns and maintains three buildings, the Town Clerks Office, the South School, and the Belvidere Central School. There are also several bridges owned by the town that are of special interest including the Morgan (covered) Bridge and the Mill (covered) Bridge. The Morgan Bridge is on the National Register of Historic Structures.

The Town Hall was renovated in 1995 to be the Town Clerks Office at a cost of \$25,000. Improvements to the vault and conference room were completed in 2001 to protect against flood damage. The office is located on a 0.5-acre parcel of land.

The South School is of special interest because it is a historically significant structure. Years ago it was one of the District School Houses and at present the Library Association's Books are stored in the building. It is located on a 0.6-acre parcel of land.

The Belvidere Central School remains available to the town for education and other purposes. The building also acts as Belvidere's emergency shelter. The building was outfitted with a Caterpillar Diesel Emergency Generator in 2002 to provide electricity if power is lost. The School is located on a parcel of land approximately 93 acres in size.

The town also owns several parcels of land totaling approximately 25 acres. The first parcel is around 19 acres and is the site of the former town landfill. It is presently used as a municipal gravel pit. The Belvidere Cemetery is four acres and there are two vacant lots of 0.5 acres each where former schools were located.

Recreational Facilities

The Belvidere Community Club (a civic organization) owns and maintains a recreation field for the use of the community. The Long Trail also passes through Belvidere along the southern border with Johnson and eastern border with Eden.

Cemeteries

There is one public cemetery, which is cared for by the Belvidere Cemetery Association. The cemetery is approximately 4 acres in size. In addition there are several private family cemeteries. All known cemeteries are indicated on Facilities and Services map.

Storm Drainage

Other than culverts associated with roadways, Belvidere does not maintain a storm drainage system. Individual property owners cannot affect drainage on their property such that it flows on to roadways or neighboring lands without permission of the owner.

Other Public Lands

Over the past 15 years, a considerable effort was made by the State of Vermont to purchase and preserve land for conservation of the Long Trail. According to the 1990 Belvidere Utilities and Facilities Report, the state owned a total of 14.5 acres in town. In 2004, the Long Trail State Forest now includes 2,400 acres of land in the Town of Belvidere according to the Grand List. The location of these properties can be found on the Facilities and Services Map.

There are also 1,289 acres of conserved lands that resulted from the sale of the former Atlas Timber Properties. The Vermont Land Trust and Nature Conservancy own these privately conserved properties jointly but the development rights have been purchased by the State of Vermont. The locations of these properties are shown on the Facilities and Services Map.

B. SERVICES

Emergency Services Planning

Dialing 911 accesses all emergency services available to residents of the Town of Belvidere. A study of emergency services communications in Lamoille County was completed in 2001 and concluded that a tower in Belvidere would improve public safety communications. The findings of this report should be implemented where feasible.

Annually, the Selectboard appoints an individual to serve as the Town's Emergency Management Director who represents the town on the Local Emergency Planning Committee District #11 (LEPC 11) which serves Lamoille County. The mission of the LEPC is to provide resources and guidance to the community through education, coordination and assistance in hazardous materials safety, hazard mitigation, preparedness, response and recovery planning to assure public health and safety. LEPC 11 monitors the regional hazardous chemical inventory, reported annually by local facilities, and plans for response in the event of an emergency. Other responsibilities include:

- Performing hazardous analysis and risk assessments of the community
- Maintained procedures for emergency notification
- Maintaining evacuation plans and routes
- Providing training and training plans

Pre-Disaster Mitigation (PDM)

Belvidere currently has a draft Pre-Disaster Mitigation plan awaiting final approval by FEMA. The goal of this plan is to provide an all-hazards local mitigation strategy that expands the disaster resistance in the communities of Lamoille County.

LCPC has developed a pre-disaster mitigation plan for the Lamoille County Region that identifies potential disasters, potential impacts from these disasters, vulnerable sites, and mitigation

projects and initiatives that would prevent, reduce, and recover from the impacts of disasters in Lamoille County. The Belvidere plan identifies potential hazards, vulnerable sites, and mitigation projects that are specific to the town. Since most Vermont communities are threatened mainly by flooding, storms, and landslides, many of the mitigation projects deal with things such as road design, culvert improvements, building improvements, and planning activities.

In Belvidere the “Worst Threats” were identified as being:

- Flood and Flash Flooding
- Winter Storm/Ice Storm
- Power Shortage/Failure

All Hazards Planning Initiative

Belvidere currently has a local Emergency Operation Plan in the form of a Rapid Response Plan (RRP). The Rapid Response Plan (also known as the pocket plan) is a portable, efficient guide for use in the early stages of disaster response. This innovative design has received FEMA approval as an adoptable, first phase local plan. LCPC will work with the town of Belvidere in coordinating regional activities such as the development of an emergency operations plans (EOPs) and to address other strategic issues that will enable communities to better avoid, mitigate, respond to and recover from all hazard events, including terrorist acts involving weapons of mass destruction (WMD).

Citizen’s Corps/CERT Initiative

Citizen Corps, a vital component of USA Freedom Corps, was created to help coordinate volunteer activities that will make our communities safer, stronger, and better prepared to respond to any emergency situation. Citizen Corps is coordinated nationally by the Federal Emergency Management Agency. The mission of Citizen Corps is to harness the power of every individual through education, training, and volunteer service to make communities safer, stronger, and better prepared to respond to the threats of terrorism, crime, public health issues, and disasters of all kinds. LEPC #11 agreed at its February 19, 2003 meeting to serve as the local Citizen’s Corps Council and to coordinate the establishment of the Lamoille County Community Emergency Response Team (CERT).

Belvidere currently has one active member of the Lamoille County Community Emergency Response Team (CERT) and community outreach for new members is ongoing. Lamoille County CERT members have had training in Disaster Preparedness, Disaster Fire Suppression, Disaster Medical Operations, Light Search and Rescue, Incident Command System, Disaster Psychology, and Traffic Control. The Lamoille County CERT works with local response agencies to increase collaboration among first responders, emergency management and volunteer groups and works with citizens to assist in mitigation, preparedness, and disaster response and recovery and public health activities.

Police

The Vermont State Police and a locally elected Constable, who is responsible for enforcing local regulations, supply Belvidere's police services. The Lamoille County Sheriff's Office also provides some services.

Crime rates in Vermont are classified as Type I (more serious crimes like homicide, rape, and larceny) and Type II (less serious crimes like fraud, vandalism, drugs, and DUI). Over the last decade, Belvidere has had an average rate of Type I crimes compared to the rest of Lamoille County. By a large margin, the most common Type I crimes in town are larceny and burglary.

Until the most recent crime report in 2002, Belvidere's Type II crime rate was generally about half the rate of the county's and very similar to other small communities in Lamoille County. In 2002 the rate of Type II crimes doubled to give Belvidere the second worst crime rate in the county. The increase was primarily the result of vandalism in town. The Selectboard will continue to monitor this to see if it was a one-time event or a trend that needs to be addressed. Residents should report any crimes so that the town can take appropriate action. This could include increased police coverage or coordinated neighborhood watch associations.

Ambulance

Ambulance services are supplied primarily by the Northern Emergency Medical Services (a private for fee organization).

Fire and Rescue

The Village of Johnson Fire Department and Rescue Squad provide fire and rescue services. Due to the time necessary for Johnson to respond to calls in Belvidere, improvements such as dry hydrants have been proposed to speed access to water supplies.

Health

The area is served by a variety of physicians in private practice, the Cambridge Regional Health Center, and the Copley Hospital in Morrisville. Major medical centers are available in the Burlington area that is approximately one hour (45 miles) away.

Child Care

The availability of quality child care has become an increasing issue across Vermont. Belvidere does not have any child care providers so residents must look elsewhere for service. The Planning Commission believes that such a service is needed and encourages residents interested in opening a child care to contact the state Child Care Division for information.

Solid Waste

Belvidere is a member of the Lamoille Regional Solid Waste District (LRSW), a municipal district formed to serve the towns of Lamoille County as well as Craftsbury and Worcester. Funding is covered entirely by user fees. There are drop off and recycling facilities in Johnson, Hyde Park, and Cambridge and occasional special drop off days in town at the recreation fields.

Other community wellness services

The Town of Belvidere does not provide social services to residents but does contribute financial support at Town Meeting to private and non-profit organizations that do. Many of these services are critical to families in order to meet day-to-day needs. The town also appoints a service officer every year to guide residents in need of services.

The organizations supported in 2003 are listed below:

Central Vermont Adult Basic Education
Central Vermont Community Action
Central Vermont Council on Aging
Clarina Howard Nichols Center
Green-up Vermont
Johnson Food Shelf
Lamoille County Court Diversion
Lamoille County Mental Health
Lamoille County Home Health
Lamoille Economic Development Commission
LENS- Meals on Wheels
North Country Animal League
Northern Vermont Resource Conservation and Development
Retired and Senior Volunteer Program
Vermont Center for Independent Living
Lamoille Valley Even Start

GOALS, POLICIES, AND RECOMMENDATIONS:

Belvidere has few facilities and services compared to other towns. This has enabled the town to maintain a low municipal tax rate. Belvidere has consistently supported the efforts of private and non-profit organizations that provide essential services for residents. Over the past few years, Belvidere has undertaken projects to provide improved services in a manner that will provide long term cost savings. The community should continue these efforts and policies in the future.

Facilities and Services Goal

- To ensure adequate public facilities and services are available to protect and enhance the lives of residents and visitors without placing an undue burden on taxpayers.

The Town has developed policies to promote moderate growth under the Population and Growth Chapter of this Municipal Plan. With moderate population growth, the town should be able to maintain adequate services needed for the community.

Policies

- All wastewater treatment systems must be designed by a Certified Wastewater Technician before construction begins.
- Belvidere supports regional efforts to provide improved emergency services communications.
- Belvidere should take a long-term view of costs to the town's tax payers in any purchase or new program.
- Belvidere should continue to support private and non-profit organizations that provide essential services to residents.
- Belvidere supports the efforts of the Belvidere Community Club in providing recreational facilities and services to the residents and visitors.

The recommendations are for the Selectboard to continue its policies of fiscal responsibility while providing services for Belvidere's residents and visitors.

Recommendations

- Belvidere should update the Health Ordinance to conform to the new state septic rules.
- Belvidere should consider adopting a telecommunication tower ordinance to ensure any tower located in town meets basic siting and aesthetic standards.
- Belvidere should continue to provide fire, rescue and ambulance services through contracts with surrounding towns and private companies as an economical means of providing necessary services.

VI. UTILITIES & ENERGY PLAN

Energy Sources.

Electricity.

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

There is no commercial electricity generating facility in Belvidere therefore all power is purchased from other places. Belvidere's electricity providers purchase power from a variety of sources including hydro (Hydro-Quebec), nuclear (Vermont Yankee), and biomass (McNeil wood burning). Little of the electricity used in Belvidere originates from fossil fuels.

Wind towers may have promise as a local source of electricity. According to some studies of wind currents in the state, the Cold Hollow range, Belvidere Mountain and Laraway Mountain have sufficient wind potential for commercial generation. These areas, however, are far from the power grid, and portions have been identified for protection from development due to wildlife and aesthetic concerns (particularly Laraway Mountain). There are other areas in town where private wind generation would be possible and this should be encouraged provided safety and aesthetic considerations are met. It is important for Belvidere to establish where and to what extent wind power is to be permitted in town.

Although the North Branch of the Lamoille River runs through town, it is unlikely that any hydroelectric facility could be located in town. The high quality of the water and river habitat as well as the lack of steady flow makes it a poor candidate for such a proposal. Damming the North Branch in Waterville has been studied and has been determined to be unsuitable as well for the same reasons.

Heating.

The heating of homes and businesses is an important sector in energy plans especially in northern Vermont. One locally renewable source for heat in Belvidere is wood. Air pollution from wood is not a major concern for the Town at this time. Presently no restrictions are placed on the use of wood as a fuel for home heating. Solar power has also been used effectively in Lamoille County to heat water (which is another component of home heating). Other sources of home heating fuel include oil, gas, kerosene, and electricity.

In Belvidere, according to the 2000 Census, 54% of homes were heated with oil or kerosene, 29% with wood, and 15% with liquid propane (LP). Two homes (1.8%) were heated primarily with coal. Electric heat is highly discouraged due to it being inefficient and putting a high demand on the local utilities to provide power. This discouragement is part of the reason that only one house in Belvidere heats primarily with electricity.

Transportation.

The rural character of the town makes it necessary to have an automobile or other vehicle for transportation. Other than walking or biking, all power for transportation is from fossil fuels

(gasoline, diesel, propane).

Energy Providers.

Electricity.

Belvidere is served by two electrical utilities. Vermont Electric Cooperative Inc. provides power for the entire town except for Belvidere Center, which is serviced by Central Vermont Public Service Corporation.

There is one major transmission line in Belvidere which follows Route 118 from Eden through Belvidere Corners and north to Montgomery. Major transmission lines are those that carry at least 34.5 kV. Vermont Electric Coop has one substation in town located west of Route 118 just north of the intersection with 109.

Home heating.

Heating fuels are provided through private individuals and companies.

Transportation.

Currently Belvidere has only one local retail outlet that offers gasoline, stored in underground tanks, and kerosene for sale. The nearest alternative retailers are 9-15 miles away. The loss of this retail outlet would have an adverse affect on the residents of Belvidere.

Energy Consumers.

Municipal facilities and services.

Public facilities and services require expenditures of tax dollars for energy. According to town reports, the school spent \$6,676 for electricity and \$4,281 for oil during the 2002-03 year. The Town Clerks Office used \$842 for municipal heat and another \$373 for power. An additional \$1,318 for streetlights and \$62 for fuel for the emergency generator was also expended in 2002-03. While these figures are fairly low, continuing to purchase efficient equipment and facilities saves tax dollars over the lifetime of the product.

Residential, Commercial, and Industrial.

Residential, commercial and industrial land uses can save energy by installing more efficient heating, improving insulation, replacing inefficient appliances and windows, and being sited to take advantage of passive solar heating. The State of Vermont recently mandated that all energy efficiency programs be handled by an energy efficiency utility call *Efficiency Vermont*.

Three-phase power may be installed within a few miles of Belvidere Junction or Belvidere Corners through Vermont Electric Cooperative for industrial customers willing to pay for the service.

GOALS, POLICIES, AND RECOMMENDATIONS:

The use of clean, renewable energy is a topic discussed prominently in global conferences. For many years, Belvidere has relied on renewable energy for electricity, renewable and non-renewable energy for home heating, and almost exclusively non-renewable energy for transportation. While residents do not have options to change some of these sources of energy, everyone can save money and energy by using more efficient appliances and vehicles or conserving power by turning off unused equipment.

The predicted continual slow growth of the town as well as technological and communication advances will create an ever-increasing demand for dependable electrical energy. Affordable electric rates coupled with available multi-phased power and adequate capacity will be critical to planning for future housing and economic development in Belvidere.

Energy Goals

- For citizens to generate energy locally from renewable sources, whether for heating, electricity, or transportation.
- Energy should be provided in a safe, reliable and efficient manner.
- To promote energy efficiency and conservation in the design, construction, and use of municipal, industrial, commercial, and residential structures.

These three goals address Belvidere's future energy sources, providers, and consumers. The policies and recommendations below offer some avenues to achieve these goals.

Policies

- Belvidere supports the use of wind and solar to generate electricity locally provided scenic and aesthetic concerns are addressed.
- Belvidere supports efforts to create a wood-burning or co-generation facility in Lamoille County.
- Wind towers shall not be located within the Cold Hollow/ Laraway district and the Natural Area district.
- All planning for power transmission lines should be strongly weighed in favor of underground placement in order to serve the other objectives of this Town Plan.
- The town should use energy efficient appliances in municipal facilities.
- Outdoor lighting, especially parking areas, should use cutoff fixtures to reduce light pollution and to allow lower wattage bulbs.

Recommendations

- The Planning Commission should consider requiring utilities be buried if subdivision regulations are drafted.
- The Planning Commission should exempt, or provide accommodations for, alternative energy adaptations (e.g. solar collectors) when developing bylaws.

VII. HOUSING

Housing Needs.

Housing needs vary depending on age, income and family structure among other things. Single persons, especially when they are young, tend to rent apartments rather than homes because they lack the income and generally do not need large homes for themselves. Young families tend to rent rather than own homes due to limited incomes. As they age, their incomes allow them to move up to starter homes and later larger single family homes. Those nearing or in retirement tend to downsize their homes as they no longer need the extra room and added maintenance. Later into retirement, many seniors desire apartments because they no longer can afford nor have the ability to maintain their homes. While these generalizations are not true for every person in a group on average families are more likely to own homes than non-families; the wealthy are more likely to own their home; and those in their middle ages are more likely to own homes than when they are older or younger. Towns, therefore, should allow a variety of housing in their community so that all ages and types of families and individuals can find suitable housing.

Current Housing Supply.

Housing demographics are used to show the amount and types of housing in town, the age of units, and their availability.

Housing Units

The total number of housing units increased from 156 to 194 units between 1990 and 2000. Of the 194 units in 2000, 68 were seasonal or vacation homes while the remaining 126 were owner or renter occupied units. The housing stock in town is primarily of two types, mobile homes (33 units) and single-family dwellings. There were five two-unit structures in town as well.

At present no multi-family dwellings exist in Belvidere. Given the increasing cost of construction, land, repair and renovation, multi-family homes have the potential of meeting the special housing needs for some population groups. Such construction would need to have adequate water, sewer, solid waste removal, heat and electrical facilities for its residents. Multi-family dwellings should also have sufficient land or acreage to provide families living in them with yard, green and recreational space. Any multi-family dwellings should also be arranged or designed to be in keeping with the rural character of the town.

Age of Units

The age of houses in town is a mix with about 40% of the housing constructed before 1960, another 40% constructed between 1960 and 1980, and the final 20% constructed more recent. The age of housing in town is important for a variety of reasons including the fact that older homes add character to the area and are links to the past. Unfortunately older homes may also need greater maintenance, be more inefficient to heat, and have utilities that may not have been updated to modern standards.

Availability

The vacancy rates in town were higher than the rest of the county in 2000. The homeowner vacancy rate was 4% while the rental vacancy rate was 10%. This compares to the rest of the county which had vacancy rates of 1% and 3.6% respectively. The increased availability of housing is one factor that helps keep housing affordable in town. In areas where vacancy rates are very low, prices of units typically increase.

Need for Affordable Housing.

Statewide housing policy states that housing is affordable when households with incomes below county median pay no more than 30% or their income on housing costs. Housing costs for renters are rent and utilities. Housing costs for homeowners are principal, interest, property taxes and insurance.

Regionally housing affordability has improved since 1990 (at least according to the statistics). Incomes increased by 44% between the two Census counts and housing values rose only 27% and rents 31%. This held true for Belvidere as household incomes rose an incredible 155% while house values increased only 40% and rents 120%.

According to the 2000 Census, homeowners in Belvidere are generally spending less than 30% of their incomes on their mortgages. The median mortgage was \$756 per month and only 2 of 21 households with a mortgage had payments at or greater than 30% of their income. Homeowners without a mortgage spent \$271 per month but 3 of 13 households were spending greater than 30% on household expenses. On average, residents with a mortgage are spending 15.6% of their income on housing and residents without a mortgage are spending 10.1%. These are all well below county averages in their respective categories.

Renters in Belvidere are not fairing as well as the county as a whole. Renters were spending 34% of their income on housing while the Lamoille County average was 26.2%. The fact that Belvidere does not have apartments and other inexpensive rental options may be a factor in why the town was so unaffordable for renters.

Table 6- Average Sale Price of Houses in Belvidere 1999-2003.

	1999	2000	2001	2002	2003
House <6 acres	\$105,000 (1)	\$79,996 (2)	\$95,800 (3)	\$106,000 (3)	\$65,000 (3)
House 6+ acres	\$25,000 (1)	(0)	\$97,500 (1)	(0)	\$136,000 (2)
Open land per acre	\$2,221 (4)	\$1,029 (6)	\$2,020 (6)	\$9,167 (2)	\$8,100 (2)

Cost of Purchasing a Home.

Using the rough estimate that households can afford a house that is three times their yearly income, a household with an income of \$44,583 (median value in 1999) could afford a home with a sale price of \$133,749. Affordability is determined by sale prices not by property values (which is what the Census records). Table 6 shows the average sale price of non-vacation homes in Belvidere

since 1999 according to property transfer records. The numbers in parentheses are the number of sales in that category for the year.

It appears by this review that a median household could afford to buy the average house on the market in Belvidere. It is difficult to gauge any market trends in Belvidere, though, because of the low number of sales in each category.

Possible Avenues to Increase Affordable Housing.

Towns have limited opportunities to impact affordable housing. Towns with local regulations must be careful that they do not drive up housing costs by requiring large lots or having other requirements that add costs to the final unit. As Belvidere does not have zoning or subdivision regulations, there are few areas that local policies may impact affordable housing today. Any bylaws if adopted should not prohibit or burden affordable housing efforts.

One avenue to help increase affordable housing is for the town to support projects proposed in town which will provide affordable housing to residents provided care is taken in their design and scale.

Special Needs Housing.

Within every community are individuals or families with special housing needs. The elderly and families with children living in poverty are examples of groups with special needs that are found in most communities. The disabled or infirmed may also require special arrangements. A final category of special needs housing is group quarters or institutional care. Living arrangements such as nursing homes, correctional facilities, dormitories, and homeless shelters fall into this category.

The amount of special care housing depends upon the community's situation. Some individuals need only a special construction (handicapped accessibility for instance), while others need assisted living arrangements (visiting nurses), while still others may require full institutional care. Belvidere has a low demand for special housing. Some individuals and groups that may require special needs housing in Belvidere are:

- There were 9 persons over 75 living in Belvidere in 2000.
- Of those over 65 years of age, 10 lived alone.
- In 1999, 6 families lived in poverty and all included children under the age of 18.
- In 2000, there were 8 single-parent families.
- Of the 168 persons between 21 and 64 years, 14 persons (8.3%) had a disability.

Based on the needs above, some form of multi-family or clustered housing could help some seniors to remain in Belvidere when they are no longer able to maintain their homes. This would provide independence but provide a level of safety and assistance especially in the winter. A small mobile home park would provide less expensive housing and the opportunity for home ownership for single parent families and families living in poverty.

GOALS, POLICIES, AND RECOMMENDATIONS:

Belvidere's housing is a mix of new and old single family dwellings. 35% of all units in town are seasonal or vacation homes. While housing remains affordable in general, the lack of multi-family housing keeps rental prices high when compared to the rest of the county. The addition of a few multi-family units or a small mobile home park could go a long way to ensuring housing opportunities for all residents especially those with special housing needs.

Housing Goal

- To ensure that Belvidere has safe, affordable housing available in a variety of types for all incomes, ages, and for those with special needs.

Other than maintaining some minimum housing standards (e.g. septic and flood hazard), Belvidere has placed few barriers to the construction of housing in town. The policies and recommendations below reflect the town's desire to maintain these minimum safety requirements and to encourage housing types that are currently lacking in town.

Policies

- Belvidere encourages a pattern of residential development that is compatible with the traditional settlement pattern of the town and is consistent with the ability to provide community services.
- Residential development is not permitted in the flood hazard area and existing housing in the flood plain should be flood proofed for the safety of the residents and the town as a whole.
- All housing must have an approved septic to ensure the health of the residents and public at large.
- Sites for manufactured and mobile homes are allowed in locations similar to those generally used for single-family conventional housing.
- Accessory apartments are encouraged as they provide needed income for the home-owner and needed small apartments for residents living alone.
- Belvidere encourages land use patterns that are inherently more affordable by nature of cost efficiencies associated with construction (e.g. shorter access roads, smaller, lots, proximity to utilities).
- Belvidere supports efforts to assist elderly and disabled residents who wish to remain in their homes, and to community based health care systems that enable elderly and disabled people to remain in the community.

Recommendations

- In the Land Use portion of this plan adequate land should be set-aside as a Development District to provide building space for the projected population growth.
- Any bylaws, if adopted, should not prohibit or burden affordable housing efforts.

VIII. ECONOMIC DEVELOPMENT

Components and Characteristics.

Department of Employment and Training (DET) track businesses and their employees who pay into the Unemployment Insurance fund (UI). Their figures do not count self-employed or other businesses exempt from UI. The DET figures for Belvidere indicate that in 1990 there were too few private sector jobs in town to be publishable. The local businesses were in trucking and social assistance. Within the public sector, though, there were 6 positions in town, all employed at the school. The average wage in the public sector in 1990 was \$10,767 per year. These six positions were present in 1995 with an average wage of \$16,018, a 48.8% increase. In 1995, only the private trucking business remained.

By 2000 private sector employment had increased to include businesses in specialty trade contracting, professional and technical services, and truck transportation. A total of 14 jobs, both public and private, were offered in town at an average annual wage of \$21,235. By 2003, two more businesses were added and two more employees to bring the totals to 5 businesses, 16 employees, at an average wage of \$22,105.

The growth of private sector employment has been important to the economy of Belvidere. In Lamoille County from 1990 to 2003, the number of businesses increased 9.6%, employment increased 30%, and wages increased 61.6%. Belvidere added 4 private businesses in that time, mostly in the past five years, and wages have increased by 105.3%. Belvidere's economy will continue to rely on small businesses and home occupations for growth.

Labor Force and Employment.

According to the US Census in 2000, there were 167 persons in the labor force of which 5.6% were unemployed. Most residents of Belvidere were employed in private wage or salary positions (71.0%) while the remaining residents were employed by the government (12.9%) or self employed (16.1%).

Table 7. Occupations of employed persons living in Belvidere.

Occupation	Number
Management, professional, and related occupations	46
Service occupations	27
Sales and office occupations	31
Farming, forestry, and fishing	4
Construction, extraction, and maintenance occupations	17
Production, transportation and materials moving	30

Source: 2000 Census.

Tables 7 and 8 show the occupation and industry of residents of Belvidere in the 2000 Census. A manager of a construction company, for example has as his/her occupation 'management, professional and related occupations' while the industry is construction. As most

residents don't work in Belvidere, many of the industries and jobs are not found in town. As can be seen, most residents worked in the 'manufacturing' and 'education, health, and social services' industries. Their occupations are fairly evenly split between 'management, professional and related occupations', 'sales and office occupations', 'production, transportation and materials moving', and 'service occupations'.

Table 8. Industry of employed persons living in Belvidere.

Industry	2000
Agriculture, forestry, fisheries, hunting, mining	6
Construction	18
Manufacturing	29
Wholesale trade	2
Retail trade	15
Transportation, warehousing, utilities	12
Information	-
Finance, insurance, and real estate	13
Professional, scientific, management, admin.	10
Education, health, and social services	22
Arts, entertainment and recreation services	15
Other services (except public administration)	1
Public administration	12

Source: 2000 Census

Journey to Work.

Journey to Work information from the Census shows that the most common destination for work is to remain in Belvidere (Table 9). Businesses in Chittenden County employ 26 people (primarily in Essex) while Morristown businesses employ another 24. Cambridge and Johnson also contribute large numbers of jobs for residents.

Looking at the place of residence of Belvidere workers (not shown on the table) there were 53 people who reported Belvidere as their place of work. These included

- 3 residents of Bakersfield (Franklin County, VT)
- 5 residents of St. Albans City (Franklin County, VT)
- 25 residents of Belvidere
- 2 residents of Hyde Park
- 12 residents of Waterville
- 3 residents of Wolcott
- 3 residents of Albany (Orleans County, VT)

Historically, Burlington, Lowell (the GAF Asbestos Mine- no longer in operation), and Cambridge were the primary destinations for work in 1980 (Table 9). By 2000 there were no residents reported as being employed in either Burlington or Lowell. A majority of job growth between 1980 and 1990 was in Johnson and Morristown. This trend has since leveled off for the period 1990-2000.

Table 9. Place of Work information for residents of Belvidere, 1980-2000.

<i>Place of Work</i>	<i>1980</i>	<i>1990</i>	<i>2000</i>
Belvidere	7	7	25
Cambridge	16	14	18
Hyde Park	2	2	6
Johnson		15	17
Morristown		24	24
Stowe			3
Waterville	4	11	2
Wolcott			1
Chittenden County Towns	17 (Burlington)	26	26
Franklin/Grand Isle County Towns		3	8
Orange County Towns			2
Orleans County Towns	11 (Lowell)		4
Washington County Towns		4	9
Windham County Towns			3
Other State			1
Place not reported	15		
Total employment	72	106	149

Source: U.S. Census 1980, 1990, 2000

Type of Community.

Journey to Work information is commonly used to classify communities as job centers, average communities, or bedroom communities. Job centers have more jobs than their resident workforce. Belvidere had 53 jobs and 149 workers in 2000; therefore it is not a job center. Bedroom communities are defined as those that have more than 2/3 of the resident work force leaving town for employment. As Belvidere has greater than 80% of the workforce leaving town, Belvidere is classified as a bedroom community. The good news is that this figure is much improved over previous Census counts. In both 1980 and 1990, Belvidere had greater than 90% of the workforce leaving town.

Unemployment.

Unemployment figures at the town level are released quarterly by the Department of Employment and Training. Table 10 shows the unemployment rates between 2000 and 2004. Typically, unemployment is highest in the first and second quarters (January to June) and lowest in the third and fourth quarters (July to December).

Compared to towns in the Morristown-Stowe labor market, Belvidere generally has one of the highest unemployment rates. Looking at the most recent figures (third quarter 2004) Belvidere was last out of the 17 towns in the labor market. The overall unemployment rate for the labor market was 3.7%.

Annual unemployment rates for Belvidere since 1990 (not seasonally adjusted) have varied between 4.4% in 1999 to 11.0% in 2003. Historically, unemployment rates have varied; rising sharply between 1990 and 1992 before falling to around 5% for three years, jumping again in 1996 before

falling in 1998-1999. Since 2000 the annual unemployment rate has hovered around 10% (Department of Employment and Training).

Table 10. Unemployment rates for Belvidere by quarter since 2000.

	1 st qtr	2 nd qtr	3 rd qtr	4 th qtr
2000	7.9	8.3	5.5	4.4
2001	10.1	13.6	8.5	2.2
2002	15.5	n/a	6.4	7.5
2003	13.8	13.4	10.2	7.5
2004	7.5	12.4	6.3	

Source: Dept. of Employment and Training Labor Market Bulletins.

Income and Poverty.

The median household income in Belvidere for 1999 was \$44,583. County wide the median household income was \$39,356, and the statewide figure was \$40,856. The 2000 Census identified 27 residents of Belvidere whose income level for the year 1999 was at or below poverty level. A look at the distribution of poverty status in Belvidere by age range shows that 48% of those persons qualifying for poverty status were under the age of 18. A look at household income sources in Belvidere for 1999 shows that 3.6% received some form of Public Assistance income.

A livable wage is the salary required in order to meet a family's needs. The larger the family, the more income is required to fulfill those needs. Recent studies by the Peace and Justice Center (1998) have shown a single person needs to earn \$8.57 per hour (\$17,831 per year) to meet basic needs (see Table 11). This increases to over \$40,000 for a family with two wage earners and two children. Note that these income figures include having to pay for benefits, which many employers provide their full time employees. Of significant note are health care costs. An employer paying 50% of their employee's health care costs may be spending \$2,500 for a married employee, which counts towards providing a livable wage. Therefore, a 2-parent family with one wage earner who earns \$26,000 per year plus \$6,000 in benefits is earning a livable wage.

Table 11. Livable wages in rural communities

Family Unit	Livable Wage
Single person	\$8.57 /hr (\$17,831 /year)
1 Parent, 1 child	\$12.99 /hr (\$27,017 /year)
1 Parent, 2 children	\$14.97 /hr (\$31,143 /year)
2 Parents, 2 children – 1 wage earner	\$15.35 /hr (\$31, 935 /year)
2 Parents, 2 children – 2 wage earners	\$20.39 /hr (\$42, 420 /year) or \$10.20 /hr each wage earner

Source: Peace and Justice Center 1998

Average wages offered by employers in Belvidere in 2000 was \$22,105 which is above the level for an individual but below the livable wage for a family. As noted above though the figure of \$22,105 does not include the value of benefits that may be offered so this positions may in fact be livable for typical families. Belvidere should make every effort to support businesses interested in locating in Belvidere, especially those that will offer jobs at a livable wage. For wage and salary

workers, this is typically in manufacturing. Sales and service jobs generally pay minimum wage or slightly above and rarely provide benefits.

GOALS, POLICIES, AND RECOMMENDATIONS:

Economic development is vital to the future of Belvidere. As we are dependent on our neighboring communities for employment, residents drive more and the Grand List remains reliant on residential properties to pay taxes. In the future, Belvidere will need some industrial or commercial properties to diversify the tax base. Any commercial and industrial development should be at a scale and be of a character consistent with Belvidere’s rural setting.

Economic Development Goal

- For Belvidere to have a balanced and diverse local economy that provides rewarding job opportunities at a livable wage.

The Town has developed the following policies in order to encourage and support local economic development.

Policies

- Belvidere supports initiatives which will make farming and forestry more economically viable into the future.
- Belvidere supports industries which take advantage of our local resources to produce value added products.
- The town supports existing and proposed businesses that provide jobs at a livable wage.
- Economic development at the expense of the environment is not encouraged. Businesses and industries shall not degrade or endanger air and water resources.
- Industries that extract renewable resources, such as timber, must do so in a sustainable manner.
- Any bylaws adopted locally should have an efficient process with clear standards to ensure local projects are not unnecessarily burdened.

Recommendations

- The Planning Commission should review all ‘Act 250’ applications for its impact on the economic development of town. Where an application is determined to not conform to this chapter or any goal or policy in in this plan, the Planning Commission should participate in the Act 250 process in order to ensure the concerns of the town are addressed. Where an application conforms to this plan, the Planning Commission should participate in the Act 250 process to attempt to ensure the process is as smooth as possible for the applicant.

IX. TRANSPORTATION PLAN

Highways.

The Belvidere transportation plan proposes to classify roads in Belvidere in such a way that the needs of property owners are met without unreasonable demands on town tax revenues. Highway expenditures are usually the second largest municipal expense after education.

Highway classification.

Vermont's local roads are classified according to their importance and general use. This classification system applies to all town highways, and is used to determine the amount of state highway assistance provided to each community. Class 1 roads are those highways that while they are the responsibility of the town to maintain, are extensions of the state highway system and carry a state highway route number. Class 2 roads are the most important highways serving as corridors between towns, and consequently carry a large volume of local and regional traffic. Belvidere lacks any Class 1 and 2 roads. Class 3 roads - such as Back Rd - are comprised of secondary town highways that are passable year round by standard vehicles. Class 4 roads are dirt roads typically functional for only part of the year for normal traffic. The following table illustrates town highway mileages in Belvidere.

Table 12. Town highway mileage by classification

<i>Town</i>	<i>Class 1</i>	<i>Class 2</i>	<i>Class 3</i>	<i>Class 4</i>	<i>Total local miles (excl Class 4)</i>	<i>Total State</i>
Belvidere	0	0	11.750	2.760	11.750	9.734

Table 13 shows all local roads and their classification and length. These are also shown on the Transportation Map.

Table 13. Highways, Classification and Length for Belvidere.

Highway #	Highway Description	Classification	Length (in miles)
1	Vermont Route 109	State Highways	6.822
	Vermont Route 118		2.921
2	Back Road and Morgan Bridge Road	III	1.95
3	Back Road	III	1.20
4	Sackett's Harbor Road	IV	0.28
5	Smithville Road	III	0.04
6	Smithville Road and Florence's Road	III, IV	2.13, 0.15
7	Laraway Mountain Road	III, IV	0.04, 0.10
8	Bog Road	III	4.35
9	Newton Valley Road	IV	0.57
10	Basin Road	III, IV	1.27, 1.03
11	Jim Road	III	0.20
12	Boarding House Hill Road	III	0.21
13	John Lot Road	IV	0.63

Bridges and Culverts.

The Town has worked with Lamoille County Planning Commission to inventory all the culverts and bridges in town including the condition. This should help the town establish a schedule to repair and maintain structures over time. Belvidere has also taken advantage of state bridge and culvert grants to repair some failing or undersized culverts.

Bridges are expensive to maintain over time. Wherever possible, any new construction should minimize the number bridges and/or culverts needed. In this way, long term maintenance costs will be minimized.

Highway maintenance.

Belvidere has done a good job over the past five years maintaining roads while holding down costs. The 2004 town budget allocates \$23,000 for the town highways. That is the same as was budgeted for 2003 and, although 70% higher than the 2000 budget, is still well below expenses in neighboring communities (see Table 14). Except for Morgan Bridge Road, the town does not maintain any paved roads so the town does not have the overhead of maintaining a salt shed. The town also contracts plowing for the winter months so the town does not own or maintain any trucks (at considerable savings to town). Please note that these figures include state aid spent on roads.

Table 14. Local road maintenance costs.

<i>Town</i>	<i>Road Miles</i>	<i>Fiscal year budgets</i>	<i>\$ spent/road mile</i>
Belvidere (FY 04)	11.750	\$23,000	\$1,957
Eden (FY 00-01)	30.130	\$235,742	\$7,824
Johnson (FY 01-02)	49.150	\$409,867	\$8,339
Waterville (FY 04)	15.560	\$55,000	\$3,534

Source: 2001 Town Reports.

Highway policies.

As residential development continues in Belvidere, it is important that the town maintain written policy toward the maintenance and construction of roads. This will provide clear information to existing and future land owners as to the level of road maintenance service they can expect from the town. As can be seen from Table 14, for each mile of road constructed or class 4 road upgraded another \$1,957 in taxes, on average, will need to be collected annually to maintain it.

Airports and Rail.

The closest airport service, the Morrisville/ Stowe State Airport, is located in Morristown. Regular commercial airport service is available at the Burlington International Airport, in South Burlington.

The Lamoille Valley Railroad is not operational and is in the process of being railbanked at this time. The nearest passenger service available is AMTRAK, with a station in Waterbury.

Recreation and Non-vehicular Transportation.

Snowmobile trails.

The Vermont Association of Snow Travelers (VAST) maintains a network of snowmobile trails on private and public lands across the state including areas in Belvidere (See Transportation Map). VAST trails in Belvidere connect the town to Waterville and Eden/Johnson. VAST trails are maintained and groomed by volunteers, and provide an important link in a statewide recreation network.

The Long Trail.

The Long Trail is a statewide hiking trail network that extends the entire length of Vermont from Massachusetts to Canada. A portion of the trail is found in Belvidere along the border with Johnson and Eden.

Bicyclists.

Most of Belvidere's local roads were designed with the automobile traveler in mind. As cyclists- both individual and groups – use these roads, conflicts can arise from lack of space and poor shoulders. Future road projects, particularly State Routes 109 and 118, should be designed to give greater consideration to non-motorized users.

Transit Services.

The Hub and Spoke Passenger Transportation system no longer provides service to Belvidere. Local taxi service is provided by a few taxi services that operate out of Morrystown and Hyde Park.

Human Services Transportation.

Numerous human-service organizations in Lamoille County currently provide services that include Belvidere residents. Most of these services are operated by utilizing full-size vans and some volunteer drivers in automobiles.

The Central Vermont Council on Aging (CVCOA) operates transportation service for elders to healthcare, shopping and community programs. They also transport meals to residents that are confined to their homes through their funding for the Meals on Wheels program for Lamoille County.

Lamoille County Mental Health (LCMH) provides rides for developmentally-disabled clients between their homes and the region's treatment and activity center.

Vocational Rehabilitation (VR) provides services to clients with disabilities that create barriers to employment. The VR program works to relocate individuals and provide transportation so they can work in the community. VR also serves as an advocate of local and regional transportation planning.

Out & About is an adult day care program in Morrisville providing transportation to clients

to gain access to and from their homes to the day center.

All four of the above organizations currently contract with Rural Community Transportation (RCT) to provide the majority of transportation services they offer. Rural Community Transportation (RCT) is based out of St. Johnsbury with a satellite office in Morrisville. LCMH offers additional services beyond those that they contracted out to RCT.

Central Vermont Community Action Council (CVCAC) operates a ride referral/ride match program in Lamoille County

GOALS, POLICIES, AND RECOMMENDATIONS:

As highways are used by everyone in the community and are typically the second most expensive service, they are critical to any town plan. Belvidere should continue to manage and maintain roads as they have over the past five years. The roads are overall in good condition and the budgets have been kept low. The town should continue to work with the regional planning commission and other organizations to ensure transportation services continue to provide assistance to residents in need of help.

Transportation Goals

- For town roads to be safe and efficient for vehicles and to be maintained in a cost effective manner.
- For pedestrian and non-vehicular transportation networks to be safe and conveniently located to encourage their use.
- To support regional transportation services that provide special transportation services for those who require assistance.

Policies

- The state highways should have limited road accesses to allow for smooth travel into and out of town.
- New driveway accesses should have a suitable sight distance so as to not create a hidden or blind driveway.
- Any new or upgraded road should be built to town road standards.
- Belvidere supports efforts to regional organizations that provide transportation services to residents in need of assistance.

Recommendations

- The Selectboard should develop a Road Surface Management Schedule (RSMS) for budgeting needed road repairs and major improvements.
- The Selectboard should update road and bridge conditions every three years to establish maintenance and repair priorities.

- The town should continue to appoint a municipal representative to the Lamoille County Transportation Advisory Committee to coordinate transportation planning, road maintenance and improvements with adjoining towns, and to ensure that the interests of the town are adequately addressed by the region and state.

X. LAND USE PLAN

Through this land use plan, Belvidere intends to achieve three objectives:

- Protect its soil, forests, water, and wildlife habitat while realizing that these resources are valuable assets for both economic and recreational uses.
- Prevent development of land that is unsuitable because of excessive slope, potential for the contamination of water supplies, or destruction of wildlife habitat.
- Prevent development where provision of school services, road maintenance, police protection and other town services would be relatively expensive and therefore put an undue tax burden on existing residents.

In order to achieve the goals of this plan, the Town of Belvidere proposes to set forth four districts: the Development District, the Natural Area District, the Forest District, and the Cold Hollow/ Laraway Mountain District. Within each of these districts, specific goals are to be achieved. These districts are delineated by elevation and slope and pre-existing character. A map showing the approximate boundaries entitled “Land Use Districts” is attached to this document.

A. THE DEVELOPMENT DISTRICT

Belvidere wishes to encourage reasonable, incremental, and affordable growth that will provide a variety of benefits to the residents of town. Development should be encouraged in areas that are close to road infrastructure in order to prevent growth from placing a burden on local services.

Purpose for district:

The development district was established to identify areas in town where industrial, commercial and residential growth is encouraged. Through implementing the goals of the district, Belvidere hopes to achieve some objectives including:

- Allowing our sons and daughters to settle in town.
- Providing employment to residents.
- Encouraging agriculture on land that is suitable to it.
- Encouraging new enterprises and businesses to settle in Belvidere.
- Preventing existing residents from being forced to leave their homes because of excessive property tax.

Description:

The Development District shall be defined as all land within 1000 feet of a class 1, 2, or 3 road and is also not in the Natural Area District. This includes approximately 3,914 acres or 17% of town.

Present Land Use:

This District is presently used for many purposes, including forestry, commercial agriculture, part-time agriculture, gravel extraction, recreation, wildlife habitat, residences and commercial purposes.

Proposed Land Use:

This District should continue to be usable for all the purposes stated above. While much of the land in this district is developable, future land uses should be constructed based on specific site considerations. Some considerations include development of land that is not greater than 30% slope, has soils that can support the proposed activity, and activities that will not threaten or impair water quality.

Recommendations for implementation:

Because Belvidere wishes to allow the maximum freedom for individuals to live and prosper in Belvidere, it does not propose that land be firmly regulated within the development district. Therefore, the Town of Belvidere has chosen to specify these general guidelines rather than detailed regulations so that we as residents and landowners can cooperate in developing the character of our town toward a common goal.

Where landowners are interested, clustering of housing and other efforts to protect open space are encouraged. The town also supports efforts to continue farming and forestry activities within the development district. Therefore, Use Value Appraisal is supported for those working landscapes within the district. Belvidere does not have subdivision regulations to guide the division of land. If poorly designed and constructed subdivisions become a problem the town should consider adopting them.

Development within this district shall be permitted with the provision that it does not conflict with the preceding limitations of slope, shallow bedrock and potential water contamination, and is in compliance with the sewage ordinance and flood hazard bylaws of the Town of Belvidere. In certain cases a specific development might receive modification of these limitations if, in a particular instance, it is deemed that the project has merit and follows the intent of the plan. Belvidere does not have zoning bylaws. If conflicting land uses occur or developments are constructed irresponsibly, the town should consider adopting bylaws in order to guide development.

Belvidere intends to prevent development that would place a burden on the town. The use of a capital budget by the town should be encouraged in order to plan the orderly development of the town. Any development causing taxes to increase beyond budgeted expenditures could then be denied through Act 250 as placing an intolerable financial burden on the Town.

B. THE NATURAL AREA DISTRICT

Belvidere plans to preserve natural areas that provide significant habitat for wildlife, both game and non-game species, and rare or protected vegetation.

Purpose for the district:

The Belvidere Bog and associated wetlands and floodplain are a fragile and important natural resource. This district is designed to preserve these habitats for future scenic, scientific, educational, and recreational value.

Description:

The Natural Area District shall be defined as the area commonly known as the bog (plus 100 foot buffer), associated wetlands (plus 50 foot buffer), endangered species sites (plus the state 200-meter buffer- approximately 650 feet), and flood area lying generally east of Route 118 and extending south and west down the North Branch of the Lamoille River to the confluence of the North Branch of the Lamoille River with Otter Brook (see also the Land Use District map). This district includes approximately 572 acres or 2.5% of town.

Present Land Use:

This District is primarily undeveloped and is used as a nesting place for migratory fowl and habitat for wildlife and protected flora.

Proposed Land Use:

This District is specifically designated to exist in its natural state. This district may not have:

- Permanent buildings, with the exception of those structures present as of this Plan's adoption in August 2000.
- Any commercial or industrial facilities, especially those that may have an adverse affect on the natural district or the Town of Belvidere.
- New roads or other construction that could disrupt natural habitats.

Recommendations for implementation:

In order to preserve these habitats without unfairly taking property right away from landowners, the town recommends the purchase of lands that fall within the district. These purchases could be made locally and be owned by the town, or by the state and be managed through the Agency of Natural Resources. Due to the regional and statewide significance of the area, the

town feels that the state would be an appropriate agent to ensure the long-term preservation of the resource.

C. THE FOREST DISTRICT.

Belvidere plans to conserve the forest resources in town and encourage responsible management practices, such as those defined by the State of Vermont Accepted Management Practices (AMPs). To achieve this, the planning commission has proposed a forest district which includes those areas best suited for timber management and which are at the same time not well suited for development due to the remote location. This area could be conserved through purchase of development rights or other agreements from landholders.

Purpose of district:

Historically Belvidere's forestlands have provided significant employment and income for area residents. In addition, the forestlands provide excellent opportunities for all-season recreation. The numerous camps and seasonal visitors attest to this fact. Belvidere is renowned for its "wilderness" nature. The Forest District includes numerous hiking trails, state forest areas, and V.A.S.T. trails.

Specifically, within the forest district, Belvidere plans to encourage the commercial and pre-commercial use of its forestlands for sustainable forestry. Other land uses that conflict with commercial forestry are to be discouraged including residential development. Keep in mind that once the land has become residential its ability to be used for forestry is seriously diminished. Looking to the future Belvidere realizes that the increase in America's population will make land for forestry, agriculture and wildlife habitat a valuable resource necessary for our survival. The town should therefore protect its large unfragmented forests as far as is practical.

Description:

The forest district shall be defined as all land within the Town of Belvidere that is below 2,500 feet, not within 1000 feet of a class 1, 2, or 3 roads, and not in the Natural Area District (see the Land Use Districts Map). This district includes approximately 16,640 acres or 73% of town.

Present Land Use:

This district is presently in forest, and has been since before the establishment of the Town of Belvidere. The forests in this district are a source of employment and income for commercial and private forestry. It is also a valuable habitat for wildlife and watershed area for the rivers and streams. Within this district there are several pre-existing camps.

Proposed Land Use:

This district is specifically designated for commercial and private forestry, watershed protection, wildlife habitat and recreation. This District may have roads built for commercial forestry purposes but not for residential or other commercial purposes.

This District may not have permanent residential buildings or any facilities for commercial recreation or other commercial development that will have an undue adverse impact on the Town of Belvidere.

Recommendations for Implementation:

Within this district the town should be permitted to enter into agreements with landowners for lower appraisals if certain use restrictions are adopted. Currently the Vermont State Use Value Appraisal of Agricultural and Forest Land may be the most effective means of maintaining forestland for productive use. Belvidere encourages landowners to participate in forest improvement incentive programs such as those provided by the ASCS, the State Current Use program and others to mitigate the burden of taxes of forestlands and improve the quality of our forests.

A long-term solution to conserve our working landscape would be the purchase of development rights from landowners in the Forest District. By purchasing development rights the landowner continues to own and manage the land but is no longer permitted to develop the land for commercial or residential purposes. These development rights may be owned locally, by the state, or by private non-profit organizations. The landowner benefits by receiving money for selling the rights as well as reduced property taxes due to the property having less value.

The Town of Belvidere should consider creating a local conservation commission so that the development rights are owned by the town and not by out of town interests (whether they be state agencies or non-profit board of directors).

D. THE COLD HOLLOW/ LARAWAY MOUNTAIN DISTRICT

Belvidere's highest elevations are fragile environments that are characterized by shallow, erodible soils and slopes greater than 30%. Although this area is forested, this district is not appropriate for timber management due to the high risk of soil erosion and slow regeneration of vegetation after clearing. Belvidere's plans are to preserve these natural areas and allow them to provide important habitat for wildlife, both game and non-game species, and to maintain water quality downstream.

Purpose for the district:

This district is being created to encourage the preservation of these fragile, high elevation habitats.

Description:

The Cold Hollow/ Laraway Mountain District is defined as those areas in town that are over 2,500 feet in elevation (see also the Land Use District map). This includes approximately 1,691 acres or 7% of town.

Present Land Use:

This District is nearly pristine and is almost entirely forested. There are no Act 250 permits allowing activities in this area at this time.

Proposed Land Use:

This District is specifically designated to exist in its natural state. This district may not have any structures, roads, logging, or agriculture.

Recommendations for implementation:

In order to preserve these habitats without unfairly taking property right away from landowners, the town recommends the purchase of lands that fall within the district. These purchases could be made locally and be owned by the town, or by the state and be managed through the Agency of Natural Resources. Due to the regional and statewide significance of the area, the town feels that the state would be an appropriate agent to ensure the long-term preservation of the resource.

GOALS, POLICIES, AND RECOMMENDATIONS

In order to accomplish the Primary Goals of this town plan the town will need to achieve the objectives of each of the land use districts proposed in this land use plan. The Primary Goals of the Belvidere Town Plan (as discussed in Chapter I of this town plan) are:

1. To control the growth of the town in such a way as to enable residents to continue to live in Belvidere without undue tax burden.
2. To encourage growth of the town in such areas and under such conditions that the demand for increased services will not significantly raise the tax burden for existing residents.
3. To regulate growth so that:
 - a. Areas of natural beauty and wildlife habitat are not adversely affected but rather enhanced, encouraged, and maintained.
 - b. Timberland management is economically feasible in the wooded area.
 - c. Agricultural use of land is encouraged and protected.
 - d. Residential and commercial growth is permitted in suitable areas.
 - e. Land use decisions are directed by residents and not outside interests.

It is not the intention of Belvidere to stop growth. By identifying areas where growth is appropriate, the Planning Commission and Selectboard intend only to guide growth to protect the natural resources for economic and environmental reasons and to prevent the need to increase taxes to provide new or expanded services. For instance, the development district is large enough that even if one house is built on every ten acres (an extremely low density for housing), there is still enough land to double the number of houses currently in town.

When planning recommendations involve limitations on the use of private property the town supports the possibility of purchasing property or development rights. The town hopes that residents interested in maintaining the town's resource base will work with local officials to achieve the desired goals.

Land Use Plan Goals

- For Belvidere to protect its soil, forests, water, and wildlife habitat while realizing that these resources are valuable assets for both economic and recreational uses.
- To prevent development of land that is unsuitable because of excessive slope, threats to water quality, or destruction of wildlife habitat.
- To prevent development where provision of school services, road maintenance, police protection and other town services would be relatively expensive and therefore put an undue tax burden on existing residents.

The land use plan has been developed based on the findings of the other chapters found in this town plan. Policies and recommendations throughout this plan are relevant to implementing this land use plan. Only some of the broader policies and recommendations are included here.

Policies

- Development on slopes greater than 30% is prohibited.
- Fragmentation of productive forestland and wildlife habitat is to be avoided.
- Appropriate measures should be taken to ensure water quality with all development including the use of buffers for streams, rivers, and wetlands, and avoiding construction in flood hazard areas.

Recommendations

- Farm and forestland owners are encouraged to participate in the Use Value Appraisal program.
- The town should support the efforts of organizations in the purchase of development rights and other conservation methods provided those efforts meet the objectives of this plan. Where possible the planning commission should review proposed purchases and comment based on the goals of this plan.
- Belvidere should consider forming a conservation commission in the future to purchase and hold development rights of farms and forestland within the town.

- The Planning Commission should review all 'Act 250' applications for impacts on the town. Where the application is determined to not conform to this chapter or any goal or policy, the Planning Commission should participate in the 'Act 250' process in order to ensure the concerns of the town are addressed.

XI. RECOMMENDED PLAN OF IMPLEMENTATION

This plan was developed with three overall goals in mind. They were discussed in Chapter I-Objectives and are as follows:

1. To control the growth of the town in such a way as to enable residents to continue to live in Belvidere without undue tax burden.
2. To encourage growth of the town in such areas and under such conditions that the demand for increased services will not significantly raise the tax burden for existing residents.
3. To regulate growth so that:
 - a. Areas of natural beauty and wildlife habitat are not adversely affected but rather enhanced, encouraged, and maintained.
 - b. Timberland management is economically feasible in the wooded area.
 - c. Agricultural use of land is encouraged and protected.
 - d. Residential and commercial growth is permitted in suitable areas.
 - e. Land use decisions are directed by residents and not outside interests.

Implementing the Program

In order to be successful in achieving the objectives of the plan, Belvidere has adopted a few programs. Planners many times refer these programs as tools. No single planning tool can be used to achieve all of the goals and policies of this plan. The tools Belvidere has adopted at this time include:

- *Flood Hazard Area Zoning*- These bylaws were adopted in 2001 to protect the health, safety, welfare, and property of the public in areas prone to flooding.
- *Health Ordinance*- Adopted in 1988 to ensure all wastewater systems meet certain minimum standards of performance.
- *Participation in Act 250*- both the Selectboard and Planning Commission are allowed to participate in the approval process of any project requiring Act 250 approval.

Belvidere has not adopted but could adopt:

- *Zoning*- to manage the impact of specific uses of land, the size and dimensions of structures, setback and yard requirements, and the density or intensity of uses.
- *Shoreland bylaws*- to protect water quality with 500 feet of lakes and ponds.
- *Subdivision regulations*- to regulate the creation of lots and to ensure efficient development of public or semi-public facilities such as utilities, roads, water, and wastewater systems.

- *Conservation efforts*- the town could create a conservation commission or partner with a statewide organization to coordinate the purchase of properties or development rights of certain properties.

The Planning Commission will need to review the various options in town to decide which tool, or tools, is appropriate for the situation. Various recommendations have been made throughout this plan and are listed below. Each of these recommendations will need to be discussed further to weigh the costs and benefits of each option.

How this Plan Relates to Neighboring Plans

Copies of the proposed Belvidere Town Plan have been submitted to all neighboring towns and the Regional Planning Commission. Belvidere is a rural town with a small population. This plan proposes no radical changes in present land use, nor are there significant changes in land use districts. In light of this fact and from our review of adjoining town plans we feel no substantial conflicts exist.

Implementation Plan

The following charts are the proposed plan of implementation for the Goals and Objectives for the Town of Belvidere as listed on page 5 of this plan. These recommendations are a compilation of the recommendations presented throughout this plan.

IMPLEMENTATION PLAN

Section: Population and Growth

GOAL: *For Belvidere’s population to have a slow to moderate growth rate so not to place a burden on the existing facilities and services. Growth should not exceed the Town’s ability to provide services to support the population.*

Recommendations	Type of Action	Who’s Involved?	Start Date	Finish Date	Notes
If the number of persons moving into Belvidere becomes a major issue over the next five years, the town should consider adopting growth management tools, such as subdivision regulations.	Monitor	PC	n/a	On going	
The Planning Commission should review and amend the ‘Future Population Predictions’ information when figures are released by the State of Vermont, or other reliable source. This should be conducted, at minimum, every five years in association with the update of the municipal plan.	Monitor	PC	n/a	n/a	Once every five years.
The Town should review the annual population estimates released by the Department of Health or U.S. Census to ensure growth rates are not outside of the towns expectations. These figures are published annually in ‘Populations & Housing Estimates’ Brochures released in the fall of the following year.	Monitor	PC	n/a	n/a	Annually
Belvidere should monitor the rate of conversions of seasonal dwellings to year round dwellings. A high conversion rate can increase the resident population quickly due to the high proportion of camps when compared to	Monitor	PC	n/a	n/a	Annually

permanent homes.					
The Planning Commission should review all 'Act 250' applications for its impact on the growth of the town. Where the application is determined to not conform to this chapter or any goal or policy, the Planning Commission should participate in the 'Act 250' process in order to ensure the concerns of the town are addressed.	Regulation	PC	n/a	n/a	Ongoing

IMPLEMENTATION PLAN

Section: Natural Resources

GOALS: *1. To use Belvidere’s earth resources conservatively for the benefit of existing and future generations and to conserve and enhance the agricultural and forestry soils in town today.*

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

3. To protect and maintain in a healthy condition natural areas and areas with significant ecological value including wetlands, uplands, and critical plant and animal habitats.

Recommendations	Type of Action	Who’s Involved?	Start Date	Finish Date	Notes
The town should consider purchasing the rights to a gravel pit or to purchase a property with sufficient gravel resources to provide for the town’s needs into the future.	Project	SB PC			
Municipal gravel pits in Belvidere should develop plans to address environmental impacts as well as future restoration of the sites.	Planning	SB PC			
Farm and forestland owners are encouraged to participate in the UVA program.	Non-regulatory	Public			
The Planning Commission should assist landowners interested in Accepted and Best Management Practices with information and resources.	Non-regulatory	PC Public			
The town should support the efforts of organizations in the purchase of development rights and other conservation methods provided the land protected meets the objectives of this plan. Where possible the planning commission	Non-regulatory	PC			

should review proposed purchases and comment based on the goals of this plan.					
Belvidere should consider forming a conservation commission in the future to purchase and hold development rights of farms and forestland within the town.	Non-regulatory	SB PC			
The Planning Commission should consider acquiring funds to have a wetland inventory of town conducted.	Research	PC			
The town should consider purchasing development rights of properties within the floodplain to permanently prevent development in those areas.	Non-regulatory	PC SB			
The Planning Commission should consider creating a plan for the flood hazard areas to address recreational opportunities, flood hazard protection, and the potential for implementation of water quality measures.	Planning	PC			
Belvidere should consider having the waters of the North Branch be reclassified as Class B-1 waters to protect water quality.	Non-regulatory	SB PC			
Belvidere should continue to enforce the On-site Septic Ordinance in order to ensure septic systems are safe and do not create a water quality problem.	Regulatory	Health Officer SB			
Belvidere supports the acquisition of lands within and around the Belvidere Bog by local or state conservation agencies.	Non-regulatory	PC SB			

<p>The town should petition the state to include Belvidere Bog on the Fragile Areas Registry as well as a Class I wetland so that the area is given the greatest amount of protection from any potential encroachment.</p>	<p>Regulatory</p>	<p>SB PC</p>			
<p>As a result of living in Belvidere, many landowners have an ethic to be good stewards of the land. The Planning Commission recognizes that more can be accomplished by educating, advising, and assisting landowners with their natural and wildlife resource concerns than could be accomplished through regulations. The Planning Commission will support and provide guidance to any property owner with questions or concerns about their natural resources.</p>	<p>Non-regulatory</p>	<p>PC Public</p>			

IMPLEMENTATION PLAN

Section: Education

GOAL: *To plan for growth and development in a way that allows Belvidere to provide quality education services and adequate facilities for all local residents without placing and undue burden on tax payers.*

Recommendations	Type of Action	Who's Involved?	Start Date	Finish Date	Notes
Belvidere should continue to have an active role on the Board of Directors of LUHSD #18 and Lamoille North Supervisory Union.	Communication	Representatives to the boards	n/a	On going	
The Selectboard should continue its policy on not taking over private roads. This will help minimize the costs of bus transportation in the future.	Non-regulatory	SB	n/a	On going	
The town should urge our senator and representative to ensure the concerns of small schools, like ours, are not overlooked in State Education Funding formulas.	Communication	Public	n/a	n/a	
If the number of persons moving into Belvidere becomes a major issue over the next five years, the town should consider adopting growth management tools, such as subdivision regulations.	Regulation	PC	n/a	n/a	

IMPLEMENTATION PLAN

Section: Facilities and Services

GOAL: *To ensure adequate public facilities and services are available to protect and enhance the lives of residents and visitors without placing an undue burden on taxpayers.*

Recommendations	Type of Action	Who's Involved?	Start Date	Finish Date	Notes
Belvidere should update the Health Ordinance to conform to the new state septic rules.	Regulation	SB			
Belvidere should consider adopting a telecommunication tower ordinance to ensure any tower located in town meets basic siting and aesthetic standards.	Regulatory	SB			
Belvidere should continue to provide fire, rescue, and ambulance services through contracts with surrounding towns and private companies as an economical means of providing necessary services..	Non-regulatory	SB	n/a	n/a	

IMPLEMENTATION PLAN

Section: Utilities and Energy

- GOAL:** *1. For citizens to generate energy locally from renewable sources, whether for heating, electricity, or transportation.*
- 2. Energy should be provided in a safe, reliable and efficient manner.*
- 3. To promote energy efficiency and conservation in the design, construction, and use of municipal, industrial, commercial, and residential structures.*

Recommendations	Type of Action	Who's Involved?	Start Date	Finish Date	Notes
The Planning Commission should consider requiring utilities to be buried if subdivision regulations are drafted.	Regulatory	PC			
The Planning Commission should exempt, or provide accommodations for, alternative energy adaptations (e.g. solar collectors) when developing bylaws.	Regulatory	PC			

IMPLEMENTATION PLAN

Section: Housing

GOAL: *To ensure Belvidere has safe, affordable housing available in a variety of types for all incomes, ages, and for those with special needs.*

Recommendations	Type of Action	Who's Involved?	Start Date	Finish Date	Notes
In the Land Use portion of this plan. Adequate land should be set aside as a Development District to provide building space for the projected population growth.	Planning	PC			
Any bylaws, if adopted, should not prohibit or burden affordable housing efforts.	Regulation	PC			

IMPLEMENTATION PLAN

Section: Economic Development

GOAL: *For Belvidere to have a balanced and diverse local economy that provides rewarding job opportunities at a livable wage.*

Recommendations	Type of Action	Who's Involved?	Start Date	Finish Date	Notes
The Planning Commission should review all 'Act 250' applications for it's impact on the economic development in town. Where an application is determined to not conform to this chapter or any goal or policy in this plan, the Planning Commission should participate in the Act 250 process in order to ensure the concerns of the town are addressed. Where an application conforms to this plan, the Planning Commission should participate in the Act 250 process to attempt to ensure the process is as smooth as possible for the applicant.	Regulatory	PC		On going	

IMPLEMENTATION PLAN

Section: Transportation

GOAL: *1. For town roads to be safe and efficient for vehicles and to be maintained in a cost effective manner.*

2. For pedestrian and non-vehicular transportation networks to be safe and conveniently located to encourage their use.

3. To support regional transportation services that provide special transportation services for those who require assistance.

Recommendations	Type of Action	Who's Involved?	Start Date	Finish Date	Notes
The Selectboard should develop a Road Surface Management Schedule (RSMS) for budgeting needed road repairs and major improvements.	Non-regulatory	SB			
The Selectboard should update road and bridge conditions every three years to establish maintenance and repair priorities.	Research	SB			
The town should continue to appoint a municipal representative to the Lamoille County Transportation Advisory Committee to coordinate transportation planning, road maintenance and improvements with adjoining towns, and to ensure that the interests of the town are adequately addressed by the region.	Non-regulatory	SB			Annually

IMPLEMENTATION PLAN

Section: Land Use Plan

GOAL: 1. For Belvidere to protect its soil, forests, water, and wildlife habitat while realizing that these resources are valuable assets for both economic and recreational uses.

2. To prevent development of land that is unsuitable because of excessive slope, threats to water quality, or destruction of wildlife habitat.

3. To prevent development where provision of school services, road maintenance, police protection and other town services would be relatively expensive and therefore put an undue tax burden on existing residents.

Recommendations	Type of Action	Who's Involved?	Start Date	Finish Date	Notes
Farm and forestland owners are encouraged to participate in the Use Value Appraisal program.	Non-regulatory	Public	n/a	On going	
The town should support the efforts of organizations in the purchase of development rights and other conservation methods provided the land protected meets the objectives of this plan. Where possible the planning commission should review proposed purchases and comment based on the goals of this plan.	Non-regulatory	PC			
Belvidere should consider forming a conservation commission in the future to purchase and hold development rights of farms and forestland within the town.	Non-regulatory	SB PC			
The Planning Commission should review all 'Act 250' applications for its impact on the town. Where an application is determined to not conform to this chapter or any goal or policy in this plan, the Planning Commission should participate in the Act 250 process in order to ensure the concerns of the town are addressed.	Regulatory	PC		On going	

