

TOWN PLAN 2014

Town of Lowell

ADOPTED ON: August 31, 2014



Town of Lowell

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August 31, 2014
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TOWN OF LOWELL, VERMONT

Town of Lowell



VERMONT

Total Area: 9,609 square miles

Highest Elevation: Mt. Mansfield, 4,395.3 ft.

Lowest Elevation: Lake Champlain shoreline, 95 ft.

Major Mountains: Killington, 4,229 ft., Mt. Ellen, 4,083 ft., Camel's Hump, 4,083 ft., Mt. Abraham, 4,017 ft.

Major Rivers: Missisquoi River, Lamoille River, Winooski River, White River, Otter Creek, West River, Batten Kill, and the Connecticut River which runs along Vermont's Eastern boundary with New Hampshire

Community Profile

Lowell is a Town in the North East Kingdom of Vermont and is part of Orleans County which is made up of 18 Towns and one City – Newport. Sitting at an elevation of 996 ft. with a total land area of 56 square miles, Lowell has unrivaled scenic views in the heart of the Green Mountains.

Lowell is surrounded by seven neighboring towns reaching the borders of: Westfield, Irasburg, Eden, Troy, Newport, Albany & Montgomery.

A large percentage of Lowell's land is forested mixed with rural residential and a small portion being considered "the Village" which is located where Route 58 and Route 100 intersect. This location is commonly referred to as "The Four Corners".

The Town of Lowell has mountains and hills on three sides. All except for the northern pan of town is quite rough and mountainous. The northern pan of town is fairly level. The Missisquoi River rises in town, originating in a small pond nearly on the line between Lowell and Eden, and enters Westfield near its southeast corner. It flows northward into Canada and then turns westward and cuts its way through the mountain a few miles north of the border, enters Vermont again and continues west into Lake Champlain. It is an important river and its valley is an important unit in the economic status of the state. Years ago in the center of the Town of Lowell at the grist mill the Missisquoi River passed through a hole in the solid rock at the foot of a fall in the river of 10feet. The top of the rock bridge was three feet wide.

Where originally there were 37,000 acres set to the town, now there are just over 33,729 acres. Upon the southern border arc Mt. Norris, Mt. Hadley and Mt. Belvidere. In the eastern pan of the town is a mountain which affords only two places for a road, one is the old Hazen Road and the other is the Irasburg route. Serpentine Hill in the northern pan of the town, is also an abrupt elevation. The whole eastern and central pan of the town are very rough and mountainous. The northern pan of the township is a fertile, sandy plain, watered by branches of the Missisquoi River, forming the most available farming land in the township. The numerous springs and streams that unite to form the Missisquoi are waters of an exceptionally pure quality, and

are populated with beautiful specimens of speckled trout. Large quantities of hard and softwood timber were standing in the forest, while excellent mill privileges were afforded, so Lowell was an exceedingly busy lumbering town.

Lowell is in the State of Vermont. According to VermontVacation.com Vermont's official Tourism site:

Vermont is the second largest state in New England after Maine, just a few hundred square miles larger than New Hampshire.

The Green Mountain State is bordered by Canada, New York, Massachusetts, and New Hampshire. It is 157.4 miles in length, 90.3 miles wide at the Canadian border, and 41.6 miles along the Massachusetts border. The Connecticut River forms the eastern boundary, while the western boundary runs down the middle of Lake Champlain for more than half of its length.

The state has 223 mountains over 2,000 feet in elevation. The mountainous areas of the state are primarily forested. In fact, although Vermont was virtually clear-cut of timber during the late 19th century, more than 75 percent of the state's total area is now forested. Beneath the mountains and rolling hills are the fertile valleys that support extensive dairy, crop, vegetable, and fruit production. As mountain ranges go, the Green Mountains are very old, and have been sculpted to their present form during several ice ages. Granite, marble, slate, asbestos and talc have all been mined from the range.

Planning

Purpose

Under Vermont's Planning and Development Act, the Lowell Select Board has established a Zoning Board to prepare a Town Plan and land use regulations. Lowell's previous Town Plan was adopted in 2009. State law now requires that the Town Plan be updated every five years, to reflect any changing conditions that may be affecting the community.

This amended Town Plan is consistent with the goals established in 24 V.S.A. § 4302. A comprehensive town plan and land use regulations allow Lowell to control growth and types of land use. Not only is a current town plan necessary should any amendments to the zoning be desired, but major projects that come under Vermont's Land Use and Development Act (Act 250) must conform to a current town plan.

Changes are coming at an increasing rate. The problems posed by these pressures must be addressed by comprehensive forethought to ensure that future decisions will provide long-term solutions rather than stopgap measures. Since communities exist primarily for the health and enjoyment of those who live in them, it follows that the nature, location and timing of community growth should be determined by the people of Lowell rather than left solely to chance or to the decisions of non-resident developers. The intent of this plan is not to eliminate any existing land uses or to stop all future development, but rather to channel the desired growth to appropriate locations within the town.



During the spring of 2000 the Lowell Planning Commission conducted a public opinion survey and held a public information meeting to determine the needs and desires of Lowell's residents with regard to the Town's future.

The Planning Board in conjunction with the Town Clerks Office will hold another survey allowing the residents to voice their opinions on planning for our community. It will focus on their concerns, what development they would like to see happen in the future and asking for ideas on how to protect the Town but also advance and grow it to its full potential.

The Zoning Board will take all opinions into account when updating the next Town Plan to ensure all residents have a say in the future of Lowell.

Based on past objectives, Town feedback and the Zoning Board analyzing the data presented in this plan the following objectives are being set in place as the future goal of this Town to achieve.

Vision Statement

It is the primary and fundamental intention of Lowell to remain a rural, agricultural town that encourages farming and a town that encourages individual businesses and entrepreneurship of a scale that can integrate harmoniously into its residential areas.



GOALS AND OBJECTIVES:

The primary goal of this Town Plan is to provide for Lowell's residents: to further their opportunities to maintain an adequate and satisfying livelihood, to foster harmony among neighbors and to protect and maintain the rural lifestyle we all enjoy. It is to these ends the following objectives are set out.

- ❖ Ensure all residents have their property rights both respected and protected.
- ❖ The growth of Lowell should occur in such a way as to enable residents to continue to live in town without undue tax burdens.
- ❖ Allow for commercial and industrial development that fit within the Town's primary objective.
- ❖ Create a safer intersection at Routes 58 and 100.
- ❖ Ensure the Zoning Administrator is well informed and equipped with the necessary resources to make determinations that adhere to state regulations for building in flood zones.
- ❖ Have flood maps available to the people of the town along with guidelines and suggestions for protecting themselves in a flood situation.
- ❖ Work with the Select Board and Road Commissioner to see better maintenance of ditches and culverts to prevent flooding during storms and seasonal melting.
- ❖ Maintain the Town's beautiful rural character as much as possible – eliminating junk yards and unsightly areas.
- ❖ Participate in the *National Flood Insurance Program – Community Rating System* through FEMA to raise awareness on flood prevention while qualifying the town residents to take advantage of home insurance discounts.
- ❖ Provide a public carpooling lot for residents commuting to work in other towns.
- ❖ See that the Town Residents have access to reliable high-speed internet.
- ❖ Keeping communication open between Town officials, residents, neighboring towns and the Zoning Board to ensure there is a constant awareness of what the residents' needs are while projecting future development to accommodate growth.
- ❖ Encourage open farmland for agricultural purposes and find new ways to support career farmers and hobby farmers to ensure they can continue their appreciated endeavor.
- ❖ Maintain roads like Bayley-Hazen Military Road between Lowell and Albany, that are no longer maintained for vehicular use, for recreational uses.
- ❖ Encourage the development of more town owned and operated parks and other recreational uses and maintain the ones the Town already has.
- ❖ Encourage the maintenance of the roads in Lowell in such a manner as to allow for safe passage and to prevent traffic congestion.

YESTERDAY

The History of Lowell

The Town was granted March 5, 1787, and chartered by Governor Thomas Chittenden to John Kelley, Esq., of New York, from whom it was named Kelleyvale. The name was changed to Lowell, Nov. 1, 1831.

The Town is located 44° 47' North Latitude (36 miles north from Montpelier); and 4° 21' East of Washington (10 miles southwest from Irasburg).

The Warren Road was the first County Road, built in 1828, running northeast through town from Burlington to Derby, passing through Lowell, north and south through Eden, and was the only mail route (now Route #100). Soon after the mountain road to Irasburg was built, but not traveled much in winter as it was too rough and steep.

FIRST: Settlement commenced by Major Caldwell from Barre, Massachusetts in 1803 and he moved his family here in April, 1806. In 1807 John Harding came to town, drawing with the assistance of four others his family and goods on three hand sleds. He settled on what is now the Philip Geoffroy farm. It is believed.

FIRST: TOWN MEETING: On March 12, 1812, a petition signed by nine of the inhabitants of Lowell was tendered to Meda Hitchcock requesting him to warn the people of a meeting for the purpose of organizing the town. The meeting was held March 31, 1812, at the home of Asabel Curtis.

On Nov. 3, 1927 a heavy downpour of rain occurred, which citizens will not forget. The Missisquoi River rose so the "flat" resembled a lake. Great gullies were made in roads and many bridges were washed away, including the two at the entrances of the village, and numerous ones on the back roads. The sawmill went down in the torrent of angry water and was never rebuilt. The dam at the sawmill site was destroyed at this time. There had been a dam in the village by the bridge and another by the old grist mill. These furnished power for the mills.

In the fall of 1938 a severe "hurricane" storm paid a visit to Lowell. Roofs were blown off, buildings and trees were uprooted, and the surroundings were a sorry sight indeed when the storm finally spent itself.

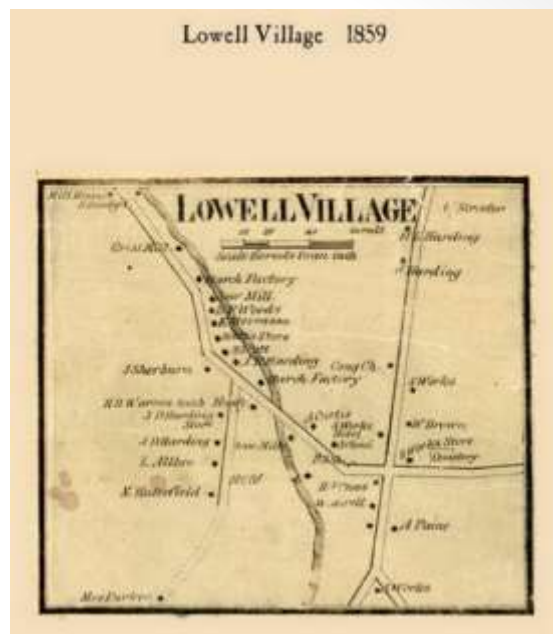
On May 6, 1939 the R.E.A. line was energized, bringing electricity to Lowell, the results of a vision that has made our present standard of living possible.

- William Edward Dodge, General Attorney of the Great Northern Railroad was born in Lowell, May 11, 1857.
- Born on April 17, 1853 in Lowell, John Curtis Caldwell, Colonel, Brigadier General, and Major General in the Civil War, was minister to Uruguay and Paraguay in 1873-1882.
- The man about whom "The Grandfather's Clock" was written was born, lived, and died in Lowell. His name was Works, "Old Daddy Works," he was called. It was said that the clock really did stop when he died, and it never ran again.

ASBESTOS was discovered in Lowell in 1824, but little was done to mine it at first. It takes about 15 tons of rock to make a ton of a s bestos fiber. This fiber was used in different building materials such shingles, siding, roofing and many other industrial uses.

Eventually the mine was utilized to its full potential and Lowell supplied 96 % of all asbestos produced in this country, and that is but a small percent of the asbestos actually used in the country. This was a huge open-face mine or quarry with no underground operation. Around the clock operation required a working force of 240 to 300 men.

After years of successful operation of the mines the health hazards of asbestos were discovered and the mine was scheduled to be closed. The mine operated from the early 1900's until it closed its doors in 1993. The mine still sits in the Town of Lowell abandoned and discussion has been had as to how or what can be done to ensure asbestos is not air born harming the residents of the town. The Zoning board will continue to work with the Department of Health to ensure no one is harmed by the abandoned mine pits.



References

The History of Lowell was written by Helen Gelo of Lowell Vermont and published by the Lowell Historical Society in 1976 for the Lowell Bicentennial celebration

Cemeteries

There are three cemeteries in Lowell:

1. Mountain View Cemetery: VT Route 58E, Lowell, VT 05847.

The cemetery is managed by the Lowell Cemetery Association, incorporated in 1915. The cemetery entrance is just east of Vermont Route 100 at the "Four Corners" crossing. The cemetery has been in continuous use since shortly after the town was incorporated in 1812. The earliest identified burial is 1817. The approximate number of interred is 1100 and 20% of the designated land area is available for future use.

2. St. Ignatius Cemetery: 1953 VT Route 100, Lowell, VT 05847

3. The Catholic Cemetery: 151 Hazen Notch Rd, Lowell, VT 05847.

Both of these cemeteries are run by a volunteer board of local residents. Unfortunately accurate records were not kept over the years or they were destroyed in natural emergencies so The Cemetery Board is currently in the midst of conducting their own research into the history and statistics of each location. The cemetery board does not currently foresee any issues with space and will update the Zoning Board when they obtain more concrete facts.

TODAY AND TOMORROW

POPULATION TRENDS

Historic Trends

The following chart lists the population for the Town of Lowell as determined in each of 13 Census counts conducted by the United States Census Bureau.

Year	Population	Change %
1890	1,178	
1900	982	-16.6%
1910	1,086	+10.6%
1920	1,005	-7.5%
1930	725	-27.9%
1940	615	-15.2%
1950	643	+4.6%
1960	617	-4.0%
1970	515	-16.5%
1980	573	+11.3%
1990	587	+2.4%
2000	738	+25.7%
2010	879	+19.1%

The population of Lowell was first determined by the Bureau of the Census in 1890. The results of that census indicated there were 1,178 people residing in Lowell.

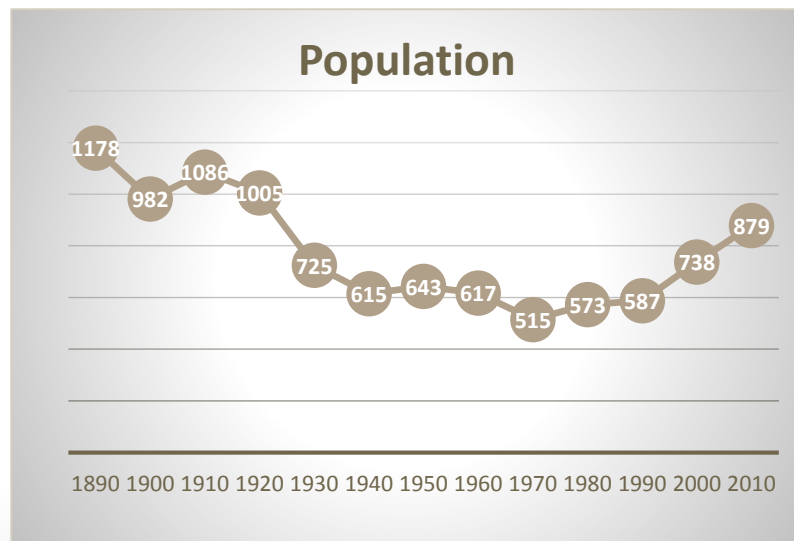
Following the 1890 Census, the population of Lowell declined steadily, with only two minor increases between 1900 and 1910 and then again between 1940 and 1950, until the 1970 Census when Lowell's lowest population was determined (515 persons). During this 80 year period, Lowell's population declined by 663 persons or 56.3% of the 1890 population.

Following the 1970 Census, Lowell's population started to increase with the 1980 Census indicating 58 new residents and the 1990 Census indicating only a very slight increase of 14 more new residents. Between the 1990 and the 2000 Census counts, however, Lowell's population increased by 151 persons. This was Lowell's largest positive population change in the 110 year history of the Census. Between 1890 and 1970 people left Lowell at an average rate of 83 people per 10 year period. Since 1970, however, Lowell's population has

increased at an average rate of 74 people per 10 year period.

As of the 2010 census the population decreased by 299 persons a total decline of -25% since the 1890 census.

From 1970 to 2010 we saw a 71% increase from the record population low to 515 growing by 364 persons to the 2010 total of 879.



This trend of municipal populations decreasing dramatically following the 1890 or 1900 Census counts only to rebound following the 1960 or 1970 Census counts has been consistent though out the Northeast Kingdom. During the first half of the 20th Century, as farming became less and less attractive, people were leaving the rural areas and moving to the urban areas for the opportunities that were available. During the last 10 to 30 years, however, as the urban areas have been losing their attractiveness; with problems of congestion, fast paced lifestyles, and crime; people are now looking for simpler and quieter lifestyles and have started to move back to the rural areas.

Present Population

***Population statistics were obtained from the Census Bureau Study found on factfinder2.census.gov*

10 Year Population Comparison for Town and County

As of April 1, 2010, Lowell had a population of 879 persons.

This is a 19.1% increase in population since the 2000 census count of 738 persons.

Of the 879 people residing in Lowell:

- 455 are males
- 424 are females.

The median age is 40 years.

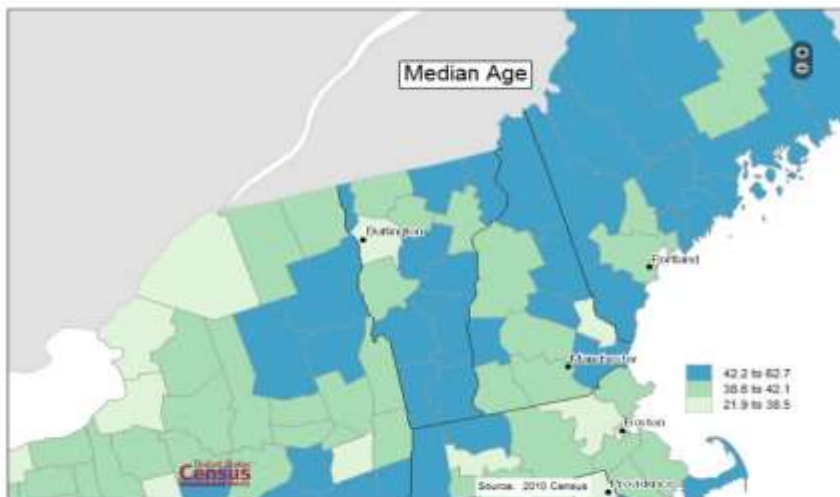
Median Age in Orleans County is 43.7

Median Age in Vermont is 41.5

	2000	2010
Lowell	738	879
Orleans County	26,277	27,231
% of County	2.81%	3.23%

	2010
Lowell	879
Vermont	625,741
% of State	0.14%

The Town Clerk's Office reported that in 2013 there were 10



registered births and 13 registered deaths in Lowell.

Like other towns in Orleans County, the average age of the population of Lowell is getting older. The median age; the age where half of the population is younger and half is older, increased from 35 years in 2000 up to the age of 40 in 2010.

This is a 14% increase in just 10 years giving us a clear indication as to where the age of the population is heading. Further down you will see a breakdown of population by age group with a comparison to Orleans County and to all of Vermont.

In order to prepare for the older generation the town should pass no regulations that would hamper the building of proper accommodations for the elderly that are attached or adjacent to relatives or other unpaid caregivers.

We feel with the proximity to medical help it would not be the ideal location for a nursing home but we will encourage the idea of assisted apartment & retirement living if a developer should consider Lowell. The Town is a beautiful rural and rustic spot for a quiet building designed for the elderly to enjoy.

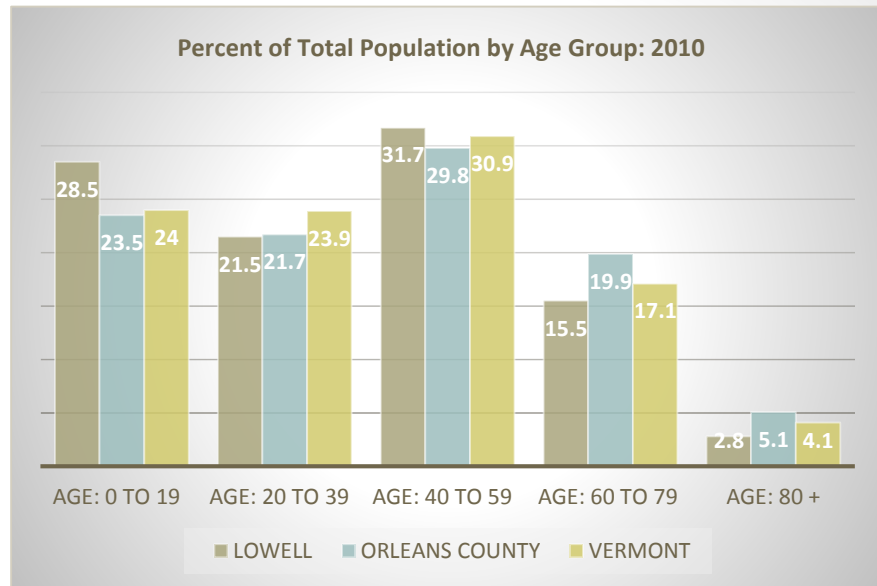
In order to attract the younger families the Town will continue to ensure it can provide affordable housing options and a strong competitive school system, however, the younger population is determined by employment opportunities which are limited and require long commutes.

Population by Age – 2010 Census

LOWELL			ORLEANS COUNTY		VERMONT		
Total Population	879		Total	27,231	625,741		
Age Years		% of population	Age years		% Of Population	% of population	
<5	48	5.5	<5	1,413	5.2	31,952	5.1
5-9	83	9.4	5-9	1,576	5.8	34,654	5.5
10-14	69	7.8	10-14	1,714	6.3	37,634	6.0
15-19	50	5.7	15-19	1,677	6.2	46,012	7.4
20-24	38	4.3	20-24	1,385	5.1	43,851	7.0
25-29	28	3.2	25-29	1,455	5.3	35,441	5.7
30-34	60	6.8	30-34	1,495	5.5	34,181	5.5
35-39	63	7.2	35-39	1,598	5.9	36,358	5.8
40-44	72	8.2	40-44	1,747	6.4	42,001	6.7
45-49	82	9.3	45-49	2,062	7.6	50,110	8.0
50-54	59	6.7	50-54	2,128	7.8	52,493	8.4
55-59	66	7.5	55-59	2,183	8.0	48,739	7.8
60-64	49	5.6	60-64	1,974	7.2	41,234	6.6
65-69	47	5.3	65-69	1,595	5.9	29,390	4.7
70-74	23	2.6	70-74	1,070	3.9	20,148	3.2
75-79	17	1.9	75-79	780	2.9	15,960	2.6
80-84	18	2.0	80-84	673	2.5	12,793	2.0
>80	7	0.8	>80	706	2.6	12,797	2.0

If we compare the percent of population by age group from Lowell to both Orleans County and to all of Vermont we can see that Lowell is well within the norm for the group. The largest percent of the population is in the 30 to 60 years of age range. However, Lowell is distinct from the County and State because it has a much larger population of

children age 5 to 9. Lowell posts a population total of 9.4% where both Orleans County and Vermont only show 5.8% and 5.5% respectively. This difference may indicate that there are more families migrating to the area and a younger population might be surging.



As we can see in the chart comparison below, the population change from 2000 to 2010 by age group, the category of ages 5-9 increased by 60% over that 10 year period. The Planning Commission will need to monitor the status of the population by age in order to determine if this is a new trend. This way they can make sure in the future Lowell is equipped to accommodate the section of the younger population growing up in the area and do everything they can to ensure that Lowell remains a desirable place for young families to be raised in.

LOWELL				ORLEANS COUNTY			VERMONT		
Age years	2000	2010	% change	2000	2010	% change	2000	2010	% change
<5	45	48	+6%	1,488	1,413	-5%	33,989	31,952	-5.9%
5-9	52	83	+60%	1,755	1,576	-10%	41,101	34,654	-15.6%
10-14	78	69	-11.5%	2,057	1,714	-16.6%	45,397	37,634	-17%
15-19	55	50	-9%	1,885	1,677	-11%	45,770	46,012	+0.5%
20-24	37	38	+2.7%	1,289	1,385	+7.4%	37,852	43,851	+15.8%
25-29	38	28	-26%	1,361	1,455	+6.9%	34,182	35,441	+3.6%
30-34	57	60	+5.2%	1,662	1,495	-10%	40,385	34,181	-15%
35-39	72	63	-12.5%	1,935	1,598	-17%	49,376	36,358	-26.3%
40-44	50	72	+44%	2,094	1,747	-16.5%	52,513	42,001	-20%
45-49	55	82	+49%	2,151	2,062	-4%	50,107	50,110	+0.005%
50-54	48	59	+22.9%	1,862	2,128	+14.2%	43,725	52,493	+20%
55-59	44	66	+50%	1,569	2,183	+39.1%	32,603	48,739	+49.4%
60-64	26	49	+88.4%	1,217	1,974	+62%	24,317	41,234	+69.5%
65-69	34	47	+38%	1,038	1,595	+53.6%	21,126	29,390	+39%
70-74	22	23	+4.5%	977	1,070	+9.5%	19,557	20,148	+3%
75-79	11	17	+54.5%	825	780	-5.4%	15,930	15,960	+0.18%
80-84	9	18	+100%	615	673	+9.4%	10,901	12,793	+17.2%
>80	5	7	+40%	497	706	+42%	9996	12,797	+28%
TOTAL	738	879	+19.1%	26,277	27,231	+3.63%	608,827	625,741	+2.7%

POPULATION BY AGE 10 YEAR COMPARISON

20 Year Population Change by Age Group

ORLEANS COUNTY				VERMONT		
	1990	2010	Change	1990	2010	Change
Total	24,053	27,231	+13.2%	562,758	625,741	+11.19%
<i>*Numbers represent percent of total population</i>						
<5	7.3	5.2	-28%	7.3	5.1	+11%
5-14	28.4	12.1	-57%	25.4	11.5	-30%
14-24	8.3	11.2	+35%	11.2	14.4	-55%
25-44	30.5	23.1	-24%	33.4	23.6	+29%
45-64	19.4	30.7	+58%	18.2	30.8	+69%
65-79	13.5	12.7	-6%	11.8	10.5	-11%
80+	3.3	5.0	+52%	2.9	4.1	+41%

Orleans County and 69% in all of Vermont. In Vermont the 14 to 24 group dropped 55% and 5 to 14's in Orleans County dropped 57%. This is a clear indication over the last 20 years what the population trends are.

If we take a quick look back 20 years and compare the population in Orleans County and Vermont by age group we will see that this aging population has been a trend for at least the last two decades. The age group of 45 to 64 has risen 58% in

Population Projections

Projections according to the Census Bureau

	2010 (Current)	2020	% Change from 2010	2030	% Change from 2010
LOWELL	879	1,018	15.8%	1,113	26.6%
ORLEANS COUNTY	27,231	28,598	5.0%	29,296	7.6%
VERMONT	625,741	628,688	0.5%	620,480	-0.8%

Accurately projecting the population of any municipality, large or small, is always difficult.

When calculating projections, there are assumptions that must

always be made which may or may not prove to be correct. The US Census has provided some options for population projections based on the current growth rate, history, economics and many other factors they take into consideration when posting projection numbers. These are to be taken as estimates and not as definitions.

The projected growth for Lowell is 15% increase over the next 10 years with a total 26% increase over the next 20 years. This is much larger in comparison to the 5% and 7.6% expectations for Orleans County; or the mere 0.5% for Vermont with an expected 20 year decline of -0.8%.

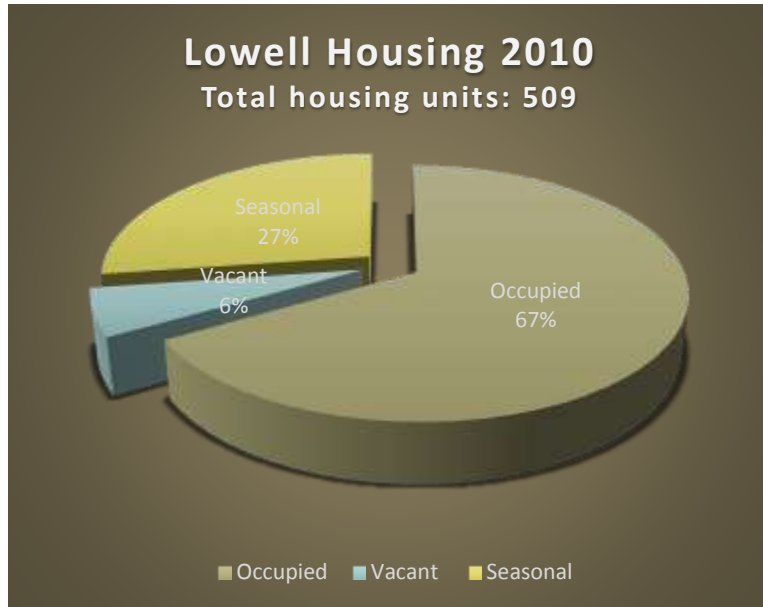
We cannot estimate why this will be the case with Vermont as a State without examining all of the information, past statistics, history etc. We are not here to analyze the data of the state but rather the data of our Town. With a smaller population as a whole, the percentage of growth looks higher. If we look at the numbers this 15.8% and 26.6% only represents 139 people over 10 years and 234 over 20 which is not a considerable or substantial amount. The Zoning Board feels this is an amount the Town is prepared to handle and can very easily accommodate.

Housing Trends

Housing statistics for Lowell based on the 2010 US Census.

Lowell		
Total Units	509	
Occupied	340	67%
Vacant	169	33%
Seasonal	139	27%

Seasonal housing is a sub-section of "Vacant". Therefore of the 169 vacant; 139 are considered seasonal and 30 are vacant for other reasons.



Of the 509 inhabitable units in Lowell; 67% are occupied, and 33% are vacant. Of those 33% - 27% are deemed as seasonal. These are camps, cottages and second houses that are only used part of the year and the owners are taxed as "Non-Residents".

When we do our 10 year comparison we can see that the total number of units has increased by 26%; which is roughly what both the vacant and occupied totals increased by indicating that there was no real change in the status of units, just the quantity available.

	LOWELL			ORLEANS COUNTY			VERMONT		
	2000	2010	% Change	2000	2010	% Change	2000	2010	% Change
TOTAL UNITS	403	509	+26%	14,673	16,162	+10%	294,382	322,539	+9.6%
OCCUPIED	270	340	+25.9%	10,446	11,320	+8.3%	240,634	256,442	+6.6%
VACANT	133	169	+27%	4,227	4,842	+14.5%	53,748	66,097	+22.9%
SEASONAL	111	139	+25%	3,397	3,951	+16.3%	43,060	50,198	+16.5%

***Seasonal is a sub-section of Vacant

Residences

Along with agriculture and forestry, residential land use is predominate in Lowell. Most residences are single family dwellings. A good number of the houses are located in the Village area, near the intersection of Routes 58 and 100, providing a cluster of homes for which municipal services could be easily and efficiently provided. However, just as many, if not more are scattered throughout the Town along Routes 58, 100, and the side roads. This

type of development does not provide for the efficient use of land or the efficient provision of municipal services. At this time no municipal utilities are provided and the town does not have plans to institute these services.

This chart and graphical interpretation detail the different housing types located in Lowell. All numbers were generated from the Grand List care of the Town Clerk and Treasurer.

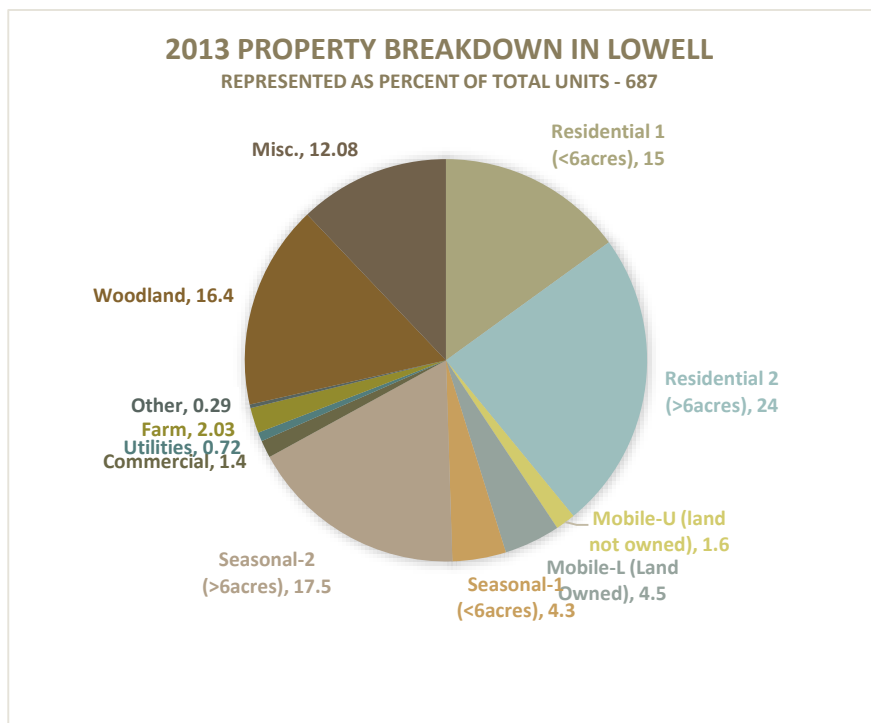
Type	2000		2010		Difference %	
	# of Parcels	Value	# of Parcels	Value	# of Parcels	Value
Residential 1 (under 6 acres)	98	5,774,800	106	12,727,600	+8%	+120%
Residential 2 (over 6 acres)	117	10,351,309	167	32,074,300	+43%	+213%
Mobile-U (on land not owned)	27	336,200	15	168,600	-44%	-50%
Mobile-L (owned land)	45	1,326,956	33	2,164,100	-27%	+63%
Seasonal 1 (under 6 acres)	21	526,400	23	1,546,100	+10%	+194%
Seasonal 2 (over 6 acres)	86	4,862,395	109	15,159,900	+27%	+212%
Commercial	8	680,400	9	1,606,800	+13%	+136%
Utilities	4	1,771,900	4	2,609,500	-	+47%
Farm	16	2,721,647	15	4,951,000	-6%	+82%
Other	4	75,600	3	494,000	-25%	+553%
Woodland	87	2,810,103	81	9,193,600	-16%	+227%
Miscellaneous*	173	2,839,456	121	5,351,600	-30%	+88%
TOTAL	699	\$34,685,395	686	\$88,047,100	-2%	+154%

*Miscellaneous is land only (no dwellings) that are a combination of woodlands, open land and/or swamp lands. These have a mixture at varying percentages.

As you can see the total number of parcels went down just 2% over the ten year period but the total taxable value was increased by 154%.

Without a huge increase/decrease in the number of parcels we can determine that the whole value increase was due to property values rising.

The graph shown was populated using the



percentage of the total units. The percentages were taken from the total number of units according to the Grand list which was 687 for 2013.

This comparison of the Grand Lists data between 2010 and 2013 shows the number of parcels only increased by 1 however the value increased by 42%. Looking closer though we realize that this is not just a general economic value increase – the largest difference is in the section of “Utilities” where we saw a 1,322% increase from \$2,609,500 up to \$37,106,800 which accounts for \$34 of the \$36 million dollar difference. This one utility property is the new Wind Tower Development that allowed the installation of Wind Turbines along the ridgeline generating power and income for the community. This project is discussed elsewhere in the town plan but it was important to note here as looking at the value assessment alone without this interpretation is a misrepresentation of our current land values.

Type	2010		2013		Difference %	
	# of Parcels	Value	# of Parcels	Value	# of Parcels	Value
<i>Residential 1 (under 6 acres)</i>	106	12,727,600	105	12,773,700	-1%	<1%
<i>Residential 2 (over 6 acres)</i>	167	32,074,300	165	31,783,200	-1%	<1%
<i>Mobile-U (on land not owned)</i>	15	168,600	11	141,700	-27%	-16%
<i>Mobile-L (owned land)</i>	33	2,164,100	31	1,957,400	-6%	-10%
<i>Seasonal 1 (under 6 acres)</i>	23	1,546,100	28	2,024,200	+22%	+30%
<i>Seasonal 2 (over 6 acres)</i>	109	15,159,900	120	16,654,000	+10%	+10%
<i>Commercial</i>	9	1,606,800	10	1,664,900	+11%	+4%
<i>Utilities</i>	4	2,609,500	5	37,106,800	+25%	+1,322%
<i>Farm</i>	15	4,951,000	14	4,606,100	-7%	-7%
<i>Other</i>	3	494,000	2	471,600	-33%	-5%
<i>Woodland</i>	81	9,193,600	83	9,872,200	+2%	+7%
<i>Miscellaneous*</i>	121	5,351,600	113	5,691,200	+7%	+6%
TOTAL	686	\$88,047,10	687	\$124,747,00	0.14%	+42%

Seasonal Housing

Seasonal Housing is part of Vermont and Lowell's culture, it allows us to take advantage of sometimes back locations that are not serviced year round, and this can save some winter cost. As well it allows hunters, campers, snowmobilers, fishing, biking and skiing for example without necessarily being tied in for the winters. The Zoning Board supports the seasonal housing market and will do its best to accommodate our part time residents to make them feel welcome and encouraged to enjoy our beautiful town at their leisure.

Housing Demand

Residential use is by far the most predominant and economically profitable use for the Town. The density of development should be dependent upon the availability of access and the ability of the soil to handle on site water and sewer systems without creating water quality problems. Residents will also have to adhere to state and federal regulations as to the placement of water wells and septic systems. The Zoning Board monitors this by requiring Building Permits from residents looking to install any new structure. This allows us to keep track of new systems as well as ensure they have done their due diligence where the State is concerned.

Land Use

	Population 2010	Area – square miles	People per square mile
Lowell	879	56	16
Orleans County	27,231	698	39
Vermont	625,741	9620	65

The Lowell population for 2010 was 879 and the average people per square mile was a mere 16. When comparing to Orleans County or the State of Vermont we can clearly see that Lowell is well below the average and that our population is geographically sparse in comparison.

Open Spaces Reserved for Conservation Purposes

One of the former Lowell Town Plan's, adopted on December 12, 1989, contains wording to authorize a Conservation Mountain district to limit development in those areas of Town least suited for development. Such a district was established in the current Lowell Zoning Bylaw, adopted in 2009, and the objective for this district designates those areas over 2,000 feet in elevation as being in the Conservation Mountain district. These areas are generally forested, are inaccessible and have moderately steep to very steep slopes. It should be noted that those areas in Lowell that are above 1,500 feet also possess many of the same characteristics as those areas above 2,000 feet in elevation. These areas can be found along the Town's eastern, southern, and western boundaries.

Projected Housing Needs

The reader should note that the Town of Lowell is not and will not be in the business of providing housing for the residents of Lowell. The purpose of the housing element is only to help the Town understand the existing housing situation and the Town's future needs.

Like many of the towns in Orleans County, Lowell had seen growth in the number of buyers of second homes. Up until the current economic downturn the region was attractive to many looking for a getaway spot. Housing was relatively affordable, and the scenic beauty of the area was appealing to many. This demand has decreased in the last few years but the Zoning Board hopes that in the future the Town will still be seen as a desirable vacation area for prospective buyers.

With a population growth estimated by the Census Bureau of 15% by 2020 – an increase of only 139 persons - we very comfortably foresee the housing market growing with the population at a manageable rate. We cannot see there being a housing crisis or urgent demand that the area cannot supply.

The Town Must be aware at all times of the economic situation and if there are large corporations coming into Town supplying jobs enticing quantities of new families to migrate to the area. This situation is rare but can provide a housing demand that the Town is not capable of supplying.

Village Character

The Zoning Board is proud of the Town's historic village and wants to encourage the revival of some original aesthetics it once possessed. The Zoning Board aims to maintain the

integrity of all public areas of the town to these standards to encourage residents to follow bringing the town's core to its original charm.

Plans for the village:

- Give the town a more community-like and attractive appearance to reflect what the area really is, has been and could be in the future. This can be done by adding parks, benches, secure places young children can play with their parents, improved sidewalks, elderly housing and easy off street parking that would encourage business.

The Zoning Board will look to the community survey to see what the Town Residents feel are priorities in the Village and what they would like to see improved upon. The Town can then discuss and approve a budget for the additions and changes.



Future Land Use

Permit Allocation

The Town of Lowell Adopted its Zoning By-Laws May 25, 2009. A copy can be obtained from the Town Clerk's office or from the Zoning Board. These policies explain the current criteria and requirements for anyone wishing to build in Lowell.

The Zoning Board will be updating and revising these in the near future to ensure they are current with today's trends and co-inside with the new Town Plan objectives.

The current procedure is for residents to fill out a building permit with all required information, have the appointed Zoning Administrator sign and approve the request, pay the indicated fee and then it is filed with the Town Clerks office. In the last few years there have been very few resident requests that have brought forth debate, extended discussion or caused any concern to the Town. Therefore the Zoning Board agrees that the current procedure for building permits works well for the Town and there is no need to change the arrangement at this time.

Should there be any challenge to the system in the future the Zoning Board will then review the process.

In the year 2000 – 34 Building Permits were submitted to the Town by residents. In 2010 there were 33 permits issued showing no great change in the 10 year period.

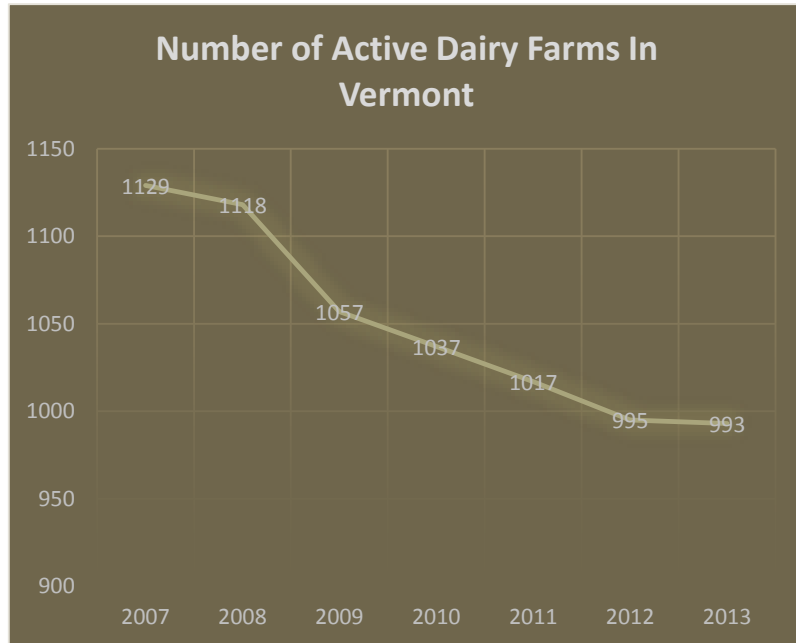
Building permits were issued for various reasons but mainly for small out buildings, sheds and garages being added on. There were also approval requests for housing additions, placements of trailers and sub-division of land into smaller parcels.

The Zoning Board currently feels that any property that meets the specified requirements is eligible for building. We will not dictate to property owners and undermine their rights if they meet requirements for the town and adhere to all state and federal by laws. The only way

in which the Board will intervene is if the resident's plans infringes on the rights of other residents or the Town; if the proposal does not meet State or Federal criteria, if it violates flood zone regulations, or if the proposed use is not lawful. The Board will step in and make suggestions and do everything they can to help the progress without bringing it to a halt.

Agriculture

There are approximately 4 active dairy farms in Lowell – three of which have approximately 100 head of cattle and the last yielding around 35. Most of the land used for agricultural purposes is located adjacent to Route 58 and Route 100 with few scattered among the side roads. *Vermontdairy.com* which is a site sponsored by the Vermont Agency of Agriculture states that in 2013 there were 993 active dairy farms in Vermont. Orleans County is home to 148 of those.



The site also has posted statistics on the declining number of active dairy farms. You will see the totals in this graph. The slow decline is blamed on rising costs, economic downfall, along with the increase costs that go with new state and federal production standards.

Between 2007 and 2013 we see a decline from 1129 farms down to 993 which is a 12% difference over a 7 year time period. In the 2009 Town Plan it was stated that Lowell had 10 active dairy farms. In comparison to the current total of 3 we have seen a tremendous 70% decline in the industry.

The declining Farming population is caused in two areas: First this is common for much of Vermont and New England, farms have consolidated and become larger or specialized in "value added farming". The larger family farms have concentrated where there is infrastructure, large open drainable fields. And the other is there are fewer people interested in a 7 day a week life style and fewer people brought up in Agriculture and attracted to this type of work long term.

With the aging population, and technology advances leading youth into different career paths we feel there will be no real recovery for the farming industry. The future of farming in Lowell will be strictly a few remaining family farms staying in production and the rest will be for hobby/leisure and not on a full production size scale.

Although Lowell will not turn its back on its farmers, and will continue to do everything it can to support and encourage the industry, it will not attempt to promote this area as huge growth potential for the town. The Town will need to focus on other areas moving into the future.

The area of growth for agriculture in Vermont the production of Maple Syrup often referred to as "Sugaring". There are currently thousands of taps producing sap in Lowell.

Vermont Statistics shows that there are 30 companies registered in Orleans County alone that produce Maple Syrup for resale. This does not include the families producing for private use or the non-registered maple farms.

This is a growing industry that both small families and large farms are able to participate in. Lowell will do everything it can to ensure it protects the Sugaring Houses and helps support growth of the industry.

Forestry in Vermont

There are few solid facts about the forestry industry relating specifically in Lowell largely because the lands are privately owned and the statistics are not reported and recorded with the Census Bureau.

We can however, look at the forestry industry in all of Vermont. These facts were obtained from the Vermont Division of Forestry – vtfpr.org.

Currently Vermont forests hold approximately 80 million cords of timber. This includes all trees 5" in diameter or larger. These forests cover 4,591,281 acres and take up 78% of the land in the state. This is a level that has stayed steady since 1980.

The hardwood mix of birch, beech and maple dominate the growing species of trees and account for 71% of the forest population.

There is little "public" land in the State of Vermont. The Green Mountain National Forest together with any small municipal owned lands only account for 19% of the forests in the state. Only 1% is owned by corporations and 80% are individually owned.

Although the industry has declined slightly since its peak in 1990, Vermont forestry still accounts for 6,636 employees working full time in directly related products such as logging, maple sugaring and Christmas trees. This number would be greatly increase however if we included all non-direct industry related jobs such as trucking or sugaring supply sales. Direct industry accounts for approx. \$861 million dollars in sales annually.

In 2013 Vermont Legislature passed Act 24 allowing until January 2015 for a new Harvesting Guideline to be written and provided to residents to ensure healthy harvesting is being practiced and thus protecting our forests.

No. 24. An act relating to harvesting guidelines and procurement standards. (H.131)

It is hereby enacted by the General Assembly of the State of Vermont:

Sec. 1. 10 V.S.A. § 2750 is amended to read:

§ 2750. HARVESTING GUIDELINES AND PROCUREMENT STANDARDS

(a) The secretary of natural resources Commissioner of Forests, Parks and Recreation (the Commissioner) shall develop voluntary harvesting guidelines that may be used by private landowners to help ensure long-term forest health and sustainability. These guidelines shall address harvesting that is specifically for wood energy purposes, as well as other harvesting. The secretary Commissioner may also recommend monitoring regimes as part of these guidelines. In developing these guidelines, the Commissioner shall:

(1) Provide widespread public notice of the process to develop the guidelines;

(2) Provide opportunities for potentially affected individuals, business organizations, and members of the public to submit recommendations on the specific content of the guidelines prior to their development and to comment on a draft of the guidelines once the draft is developed;

Once the guideline is completed and adopted by the State the Town of Lowell will ensure it is made available to its residents. The Zoning Board will actively work to ensure that the forests are protected and that the residents are continually aware of updated rules and regulations by the State of Vermont.

As for development in these areas: Any land area in Lowell that has steep slopes and/or shallow soils should have a very low intensity of development. This land is generally suitable only for forest purposes; some agricultural uses, and, at a very low-density, seasonal and year-round dwellings, which should be permitted only if the site can support a well and septic system and there is adequate public access to the site.

This plan recommends that all lands above 2,000 be designated as being in this district. The minimum density for the Conservation Mountain district should be one family per ten (10) acres.

Wetlands



Wetlands are of crucial importance to the surface water regime. These areas store large quantities of water during periods of high runoff and gradually release water during low flow periods. Therefore, the wetland regulates stream discharge both during low flow and peak flow. Loss of this storage capacity will not only adversely affect stream behavior but will also increase floods and reduce stream flow during crucial low flow periods. Wetlands are also important for the maintenance of water quality. The

biological activity of a wetland area enables the absorption and assimilation of nutrients and thus purifies to some extent the water which is discharged.

TYPES OF WETLANDS IN VERMONT

The most common wetland types in Vermont are described as follows:

- **Wooded Swamp** - A wetland dominated by trees greater than 20 feet tall. Typical species include red maple, northern white cedar, and American elm.
- **Shrub Swamp** - A wetland dominated by woody shrubs less than 20 feet tall. Typical species includes speckled alder, willows, and buttonbush.
- **Wet Meadow** - A wetland dominated by grasses, sedges, and other forbs with saturated soil near the surface but without standing water for most of the year.
- **Marsh** - A frequently or continually flooded wetland characterized by emergent herbaceous vegetation.
- **Pond** - A small, relatively shallow body of open water less than 20 acres in size.
- **Bog** - A wetland underlain by a thick layer of peat and which receives water mostly by precipitation. Vermont bogs are usually dominated by sphagnum mosses and low shrubs such as leather leaf.



The State of Vermont Agency of Natural Resources defines the Wetlands classifications as follows:

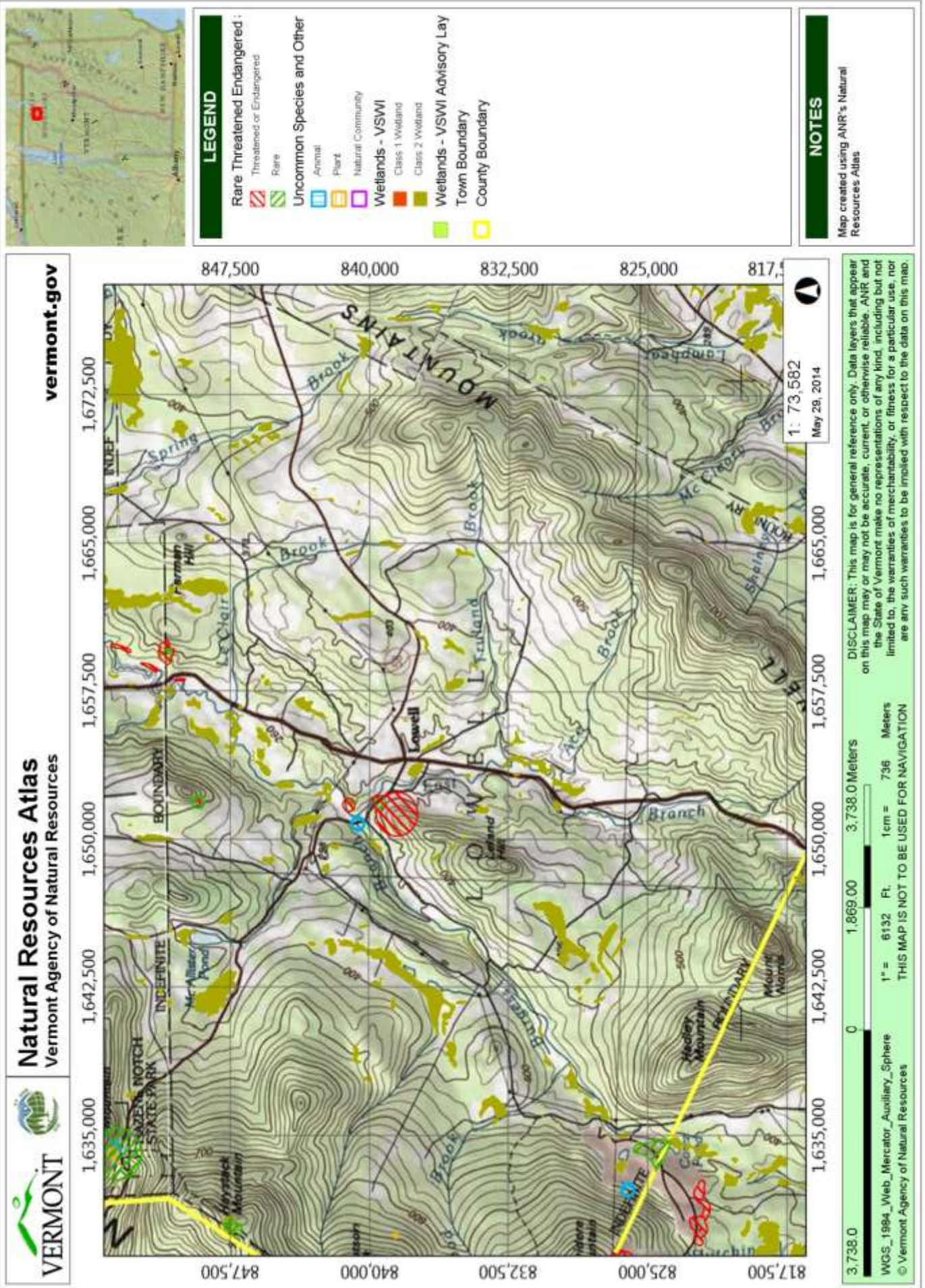
Classification of Wetlands

The rules establish three classes of wetlands that are used to determine the level of protection under these rules.

***Class One and Two wetlands** are “significant wetlands” and therefore are protected under these rules. Class One wetlands are those wetlands which the Board determines are exceptional or irreplaceable in their contribution to Vermont’s natural heritage and merit the highest level of protection under these rules.*

***Class three** wetlands are not protected under these rules, however, they may be protected by other federal, state or local regulations.*

The topographical map on the following page shows the wetlands in Lowell; there are several small sections of Class one Wetlands and some areas where Class two wetlands are designated. Both of these designations indicate these are protected areas and important to the ecosystem of Vermont. The Zoning Board will ensure that these regulations are adhered to and that no damage will be done to the protected natural areas. Permits will not be issued to build or do anything that would compromise the natural wetlands in Lowell.



FLOOD & FLUVIAL EROSION PLAN

As of 2014 a new section was required to be included in any Vermont Town plan outlining Flood Resilience.

Act 16 states the following:

(12)(A) A flood resilience plan that:

(i) identifies flood hazard and fluvial erosion hazard areas, based on river corridor maps provided by the Secretary of Natural Resources pursuant to 10 V.S.A. § 1428(a) or maps recommended by the Secretary, and designates those areas to be protected, including floodplains, river corridors, land adjacent to streams, wetlands, and upland forests, to reduce the risk of flood damage to infrastructure and improved property; and

(ii) recommends policies and strategies to protect the areas identified and designated under subdivision (12)(A)(i) of this subsection and to mitigate risks to public safety, critical infrastructure, historic structures, and municipal investments.

(14) To encourage flood resilient communities.

(A) New development in identified flood hazard, fluvial erosion, and river corridor protection areas should be avoided. If new development is to be built in such areas, it should not exacerbate flooding and fluvial erosion.

(B) The protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion should be encouraged.

(C) Flood emergency preparedness and response planning should be encouraged.

Flood Definitions: Types of Flooding

Flash Flooding: Flash flooding is a rapid and extreme flow of high water into a normally dry area, or a rapid water level rise in a stream or creek above a predetermined flood level, beginning within six hours of the causative event (i.e., intense rainfall, dam failure, ice)

River Flooding: River flooding occurs when river levels rise and overflow their banks or the edges of their main channel and inundate areas that are normally dry.

Tropical Systems: At any time of year, a storm from over the ocean can bring heavy precipitation to the U.S. coasts. Whether such a storm is tropical or not, prolonged periods of heavy precipitation can cause flooding in coastal areas, as well as further inland as the storm moves on shore.

Ice/Debris Jams: A back-up of water into surrounding areas can occur when a river or stream is blocked by a build-up of ice or other debris.

Snow Melt: Flooding due to snowmelt most often occurs in the spring when rapidly warming temperatures quickly melt the snow. The water runs off the already saturated ground into nearby streams and rivers, causing them to rapidly rise and, in some cases, overflow their banks.

Dam Breaks /Levee Failure: A break or failure can occur with little to no warning. Most often they are caused by water overtopping the structure, excessive seepage through the surrounding ground, or a structural failure.

100 year flood: this term is often misunderstood to mean that a flood of this magnitude could only happen every hundred years. In reality this terms means that there is a 1% probability of occurrence in any given year. Lowell has had several major storms that qualify as being to the volume of a "hundred year flood"

Flooding in Lowell

Over the years there have been small incidences of flooding due to storms or from ice and snow melting but most did not cause considerable enough damage to be noted. However, there are several events that caused costly damage to the Town of Lowell and a few just in recent years.

The most memorable and tragic of all floods was the great flood of 1927. All of Vermont was hit with rain throughout the month of October of that year saturating the ground so that when a storm started in early November there was nowhere for the moisture to drain. Between the evening of November 2nd and the morning of November 4th there was almost 9" of rain. In that short period of time, and with the ground conditions as they were, and drainage not being up to today's technology, the damage to the town was severe. Hundreds of miles of roads and rail tracks in the state were destroyed. In Vermont there were 84 fatalities from this storm and 1285 bridges were wiped out. The cost to rebuild was \$30-35 million (Inflating that to 2012 standards that cost would be \$450 million)

Storms related to Hurricane Irene swept through in late August 2011 causing the Town of Lowell just under \$15,000 in damage to the roads due to flooding. However, there was a larger storm earlier that year causing almost double that. April 23 to May 9, 2011 rainstorms hit Lowell causing almost \$27,000 of flood damage to some of the residential roads. The main thoroughfares of Route 58 and Route 100 were not affected but some Town roads such as Irish Hill, Green Hill and Cheney Road suffered considerable damage with washouts.

The Town of Lowell was unfortunate enough to experience floods again in late May of 2012. Again caused by rain storms, this sweep of bad weather inflicted enormous damage and road closures for an extended period of time. The Town, with the help of State and FEMA funding, incurred costs of almost \$376,000 in flood damage. Of that total \$148,000 is only now being spent in 2014 as a large culvert replacement project is underway on the Mines

Road. The delay was caused when the town needed the extra time for proper planning and Engineering of the massive culvert construction.

It is important to look at the history of flooding in Lowell so we can learn from our past mistakes and make corrections to prevent extensive damage in the future. It is clear Lowell sits in pockets of flood zones but surprisingly the history of floods in Lowell has been caused by rain storms (flash floods) and not what most Vermonters would expect being in the mountains; snow melt.

That would indicate that we have enough land resources for the slow melting snow to drain properly but any storm bringing large quantities and the town is not set up to handle the water runoff.

The Zoning Board must make recommendations in the future and work with the Select Board and the Road commissioner to improve the drainage and the maintenance of ditching in the Town. A good starting point would be for the Town to do a survey of the ditches and installed culverts to ensure they are large enough and strong enough to meet the capacity should there be a storm. Then the problem areas can be identified and plans can be made on how to correct and improve.

With a very small Town Staff and Road crew we can enlist the help of others around to ensure the task is completed in a timely manner:

- First, the town can look to the board of Listers for help. When properties are being appraised they could be asked to visually inspect the culverts and ditching around the properties and notify the Town Office or Zoning Board should they see rising water levels or anything out of the ordinary.
- Second, it would be helpful to take survey of the Towns people asking their ideas and opinions of the drainage in the Town and at their residences. There are many small country roads that the Town Roads Commissioner is not able to monitor on a regular basis and/or may not be out in the particular area when water levels rise resulting in him being unaware of the issues in any given area. This would greatly assist the Town in keeping up the maintenance to ensure when a storm comes it doesn't not do the extreme damage it could.
- Third, be much more vocal with the community about flood zones and ways to prevent floods. The Town of Lowell needs to be more active in the resources that agencies like FEMA provide to make people aware of what flood zones are and what measures can be taken to ensure the least amount of damage is done during a storm.

The following maps show the major flood zones in Lowell as per the Agency of Natural Resources. A full set of Flood Zone Maps can be seen in Appendix B attached.

ZONE A- Areas of 100 year flood.

ZONE C- Areas outside of 500 year flood

As you will see the majority of the flood areas lie around Route 100 and follow the branches of the Missisquoi River. Flood areas are most common around waterways and low lying areas.

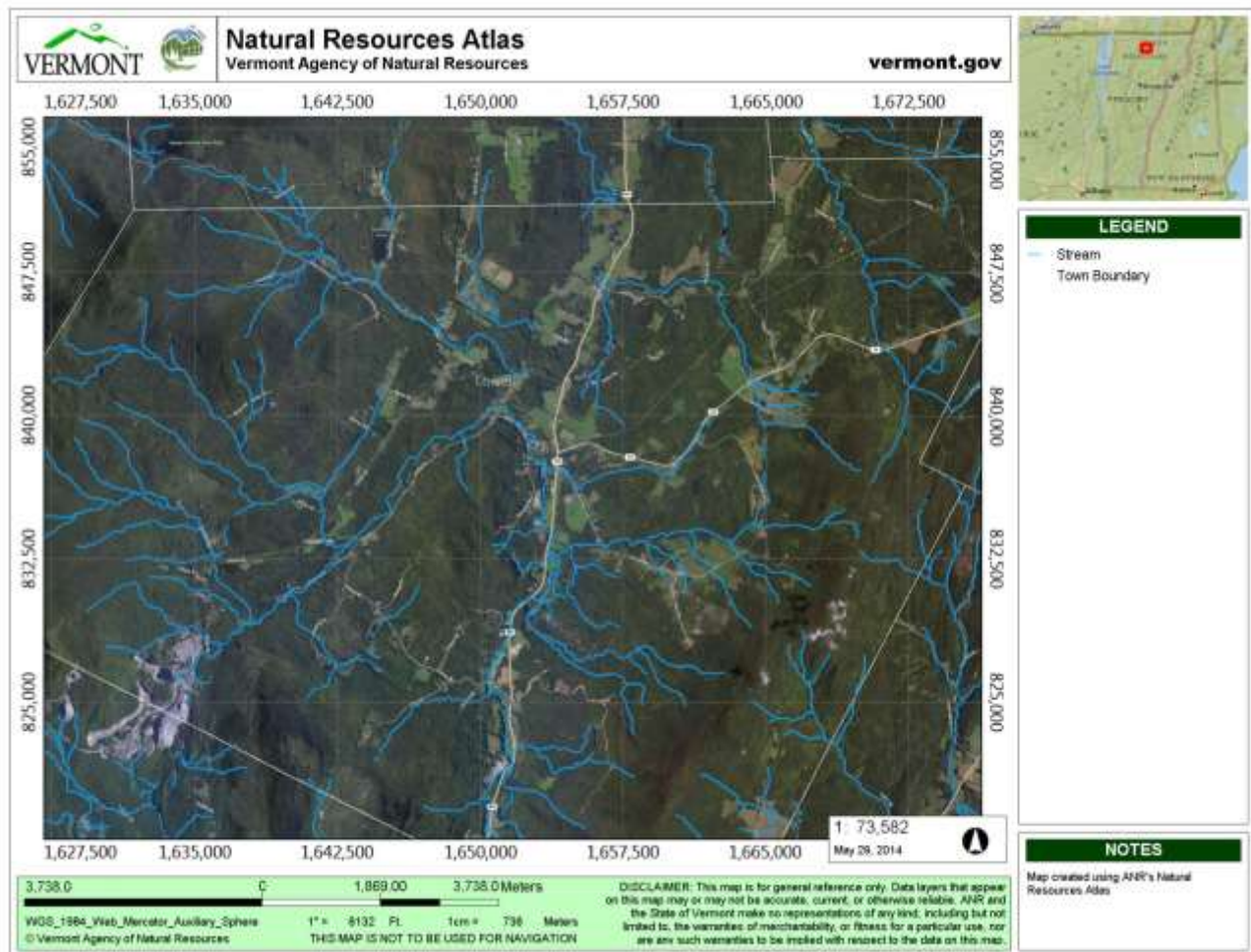
The Zoning Board is committed to the new regulations set out by the state and will do everything they can to comply including restricting and limiting building new structures in any flood zone.

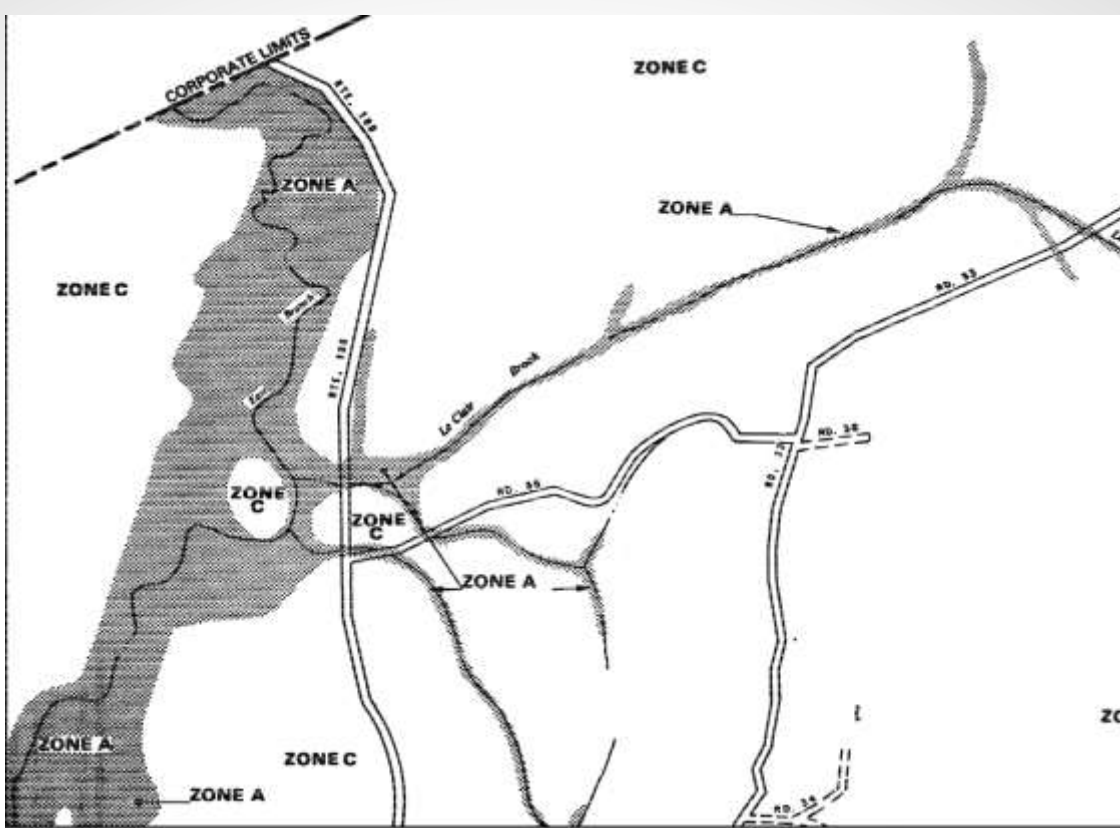
The Board will be meeting with the Zoning Administrator providing him with the official flood maps along with instructions that new buildings and new structures are not to be issued permit permission in these zones.

The Zoning Board, working with the Town Clerks Office, aims to identify all current residential homes that are in a Zone A flood zone and will include a notice to all Real Estate Agents requesting information on these homes that explains the restrictions and limitations the Zoning Board has set on all structures located in these flood zones.

The Town needs to ensure there is a proper hazard plan in place and emergency preparedness is up to date. All town employees should be current on the towns procedures during a flood and this information should be made available to the public.

This map shows an overview of the rivers and streams in Lowell. The proximity to waterways are a huge determination in identifying flood zones. These areas are in danger from rising water levels during storms.

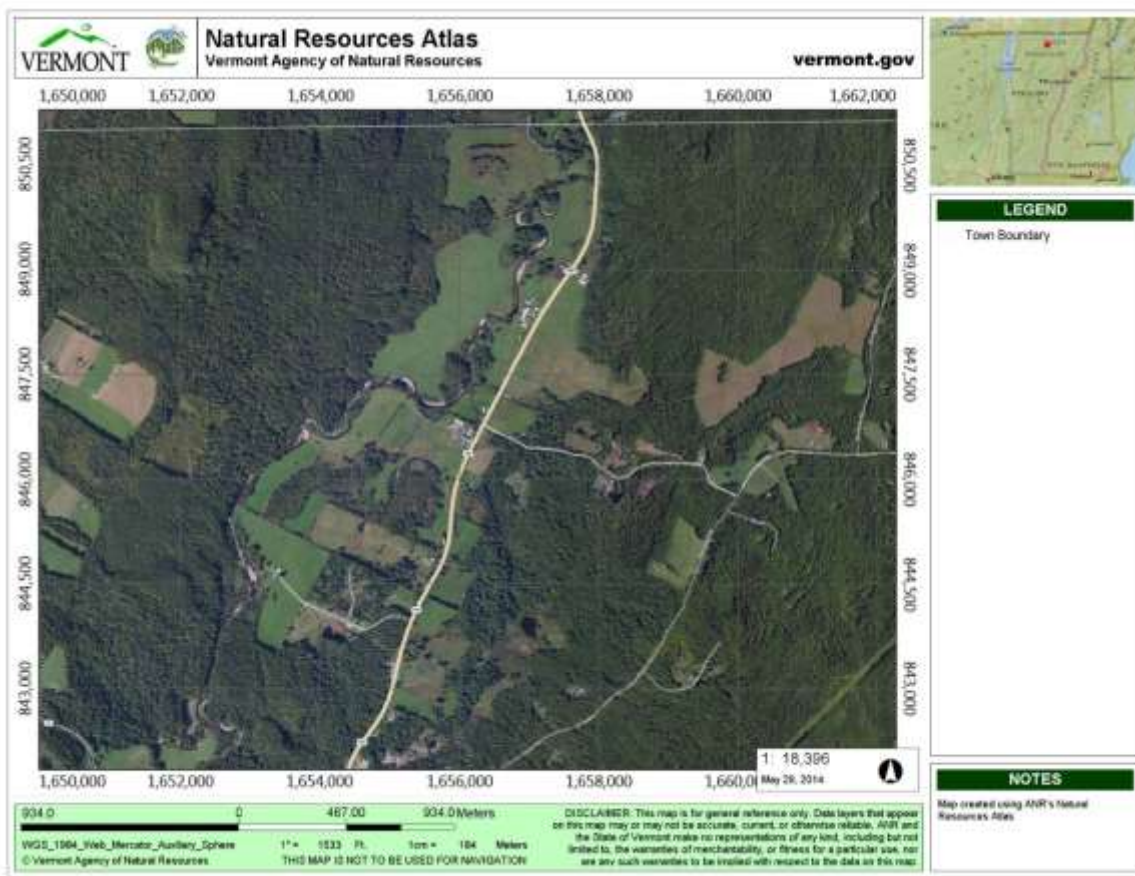


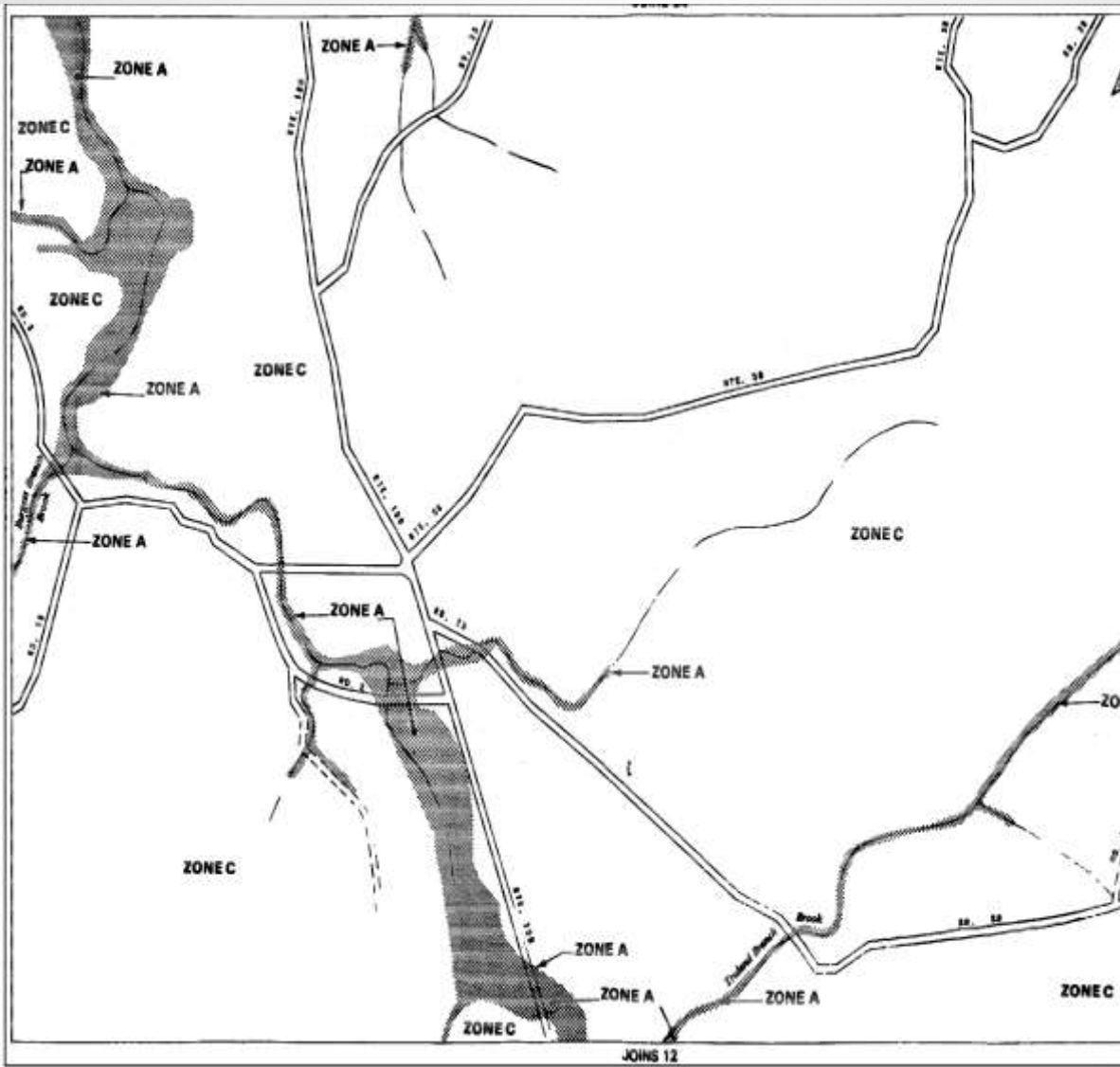


This map from the Agency of Natural Resources above shows one of the largest sections of town designated as Zone A. This is at the north end of Lowell bordering the Town of Westfield, west of Route 100 and follows along the branches of the Missisquoi River.

The following is a picture view of the same map– the north end of town bordering the Town of Westfield along Route 100. This shows the farms and residences that are currently in this flood zone and close to the river branches.

These areas, along with the passage through Route 100, should be protected and measures taken to ensure we do not lose these to flood damage. It is also imperative that the Town and the Zoning Board monitor future development as not to put anyone in jeopardy.





This Map shows the high risk flood zones entering along the river and running right through the village at Route 58 and Route 100 on the south west side. The cluster of homes here in the village is at a huge risk bordering a riverbed designated flood zone. Many homes could be lost should the town not be prepared for a disaster. The Town must actively ensure that there is sufficient drainage in the Village that accommodates the amount of homes and the steep winding slopes they sit on. The houses on lower ground must be aware of the risks and look at any possible drainage issues that could arise. An assessment of the Village and its drainage and ditching should be conducted to get better insight into its condition.



Arial shot of McAllister pond, also designated ZONE A. Another potential high risk flood zone in Lowell.

A full set of flood maps for the Town can be seen in Appendix B

The Zoning Board and the Roads Commissioner should also be actively working with the Lowell Fire Department to ensure everyone is on the same page and ready if a disaster strikes.

The Town Offices should be aware of the plans the Fire Department has for evacuation and rescue in a flood situation so that everyone can be prepared.

The Hazard Mitigation Plan and Emergency Preparedness Plan must be completed and made available at the Town offices for all Town Officials, committees and residents to have access to.

The Zoning Board would like to participate in the *National Flood Insurance Program – Community Rating System* offered by FEMA. This is a nationwide program that allows towns to voluntarily be active in community flood awareness programs to accumulate “points”. At various point levels the Town is then given an insurance status and residents can take advantage of discounted rates on flood insurance.

The Zoning Board feels this is a great opportunity to take further measures to ensure the Towns safety in a flood and be able to educate the residents through these programs with the added benefit of providing an incentive of better insurance rates.

Participation in this program is in preliminary stages and the Town Office is currently gathering information on the criteria and registration with FEMA. Once this is all available for the Zoning Board we will then discuss the various activities we feel would best benefit our Town and then make plans to execute.



Fluvial Erosion

Fluvial erosion happens along river and stream banks and can cause serious flood damage. The State of Vermont (<http://floodready.vermont.gov>) gives us the following definitions and descriptions of fluvial erosion.

The Problem of Fluvial Erosion

Most of the flooding damage we experience in Vermont is from the power of moving water and the sudden destruction of under-sized culverts and the erosion of stream banks supporting roads and buildings. By allowing a river to have access to the room it needs over time we can allow it to function as a responsive system and avoid repeated losses to public infrastructure and investments.



Erosion (and deposition) along a stream or river is natural. Sometimes, in the quest to stop this process in one place we can make it worse in others. Rivers, streams, and their channels are changing constantly in response to the water, energy, sediment and debris that pass along them. Every year or two the stream fills to bank full and the shape of the channel responds to this force by cutting deeper into some stream banks and also by depositing sediments in the quiet inside bends. This process is visible as an "S" shaped form that slowly changes position.

If the stream cannot spill out of its banks, the power of the trapped water increases and the channel either digs down or cuts out further to the sides. Where the roads and buildings are nearby these adjustments to the channel's shape can become dramatic and costly. A river is in geomorphic equilibrium when it is in balance with its water, energy, sediment, and debris. A river in equilibrium has not become overly deep and can continue to overflow onto its floodplains. The water that spills onto the floodplain slows down, and the velocity of the water still in the channel does not become excessively powerful.

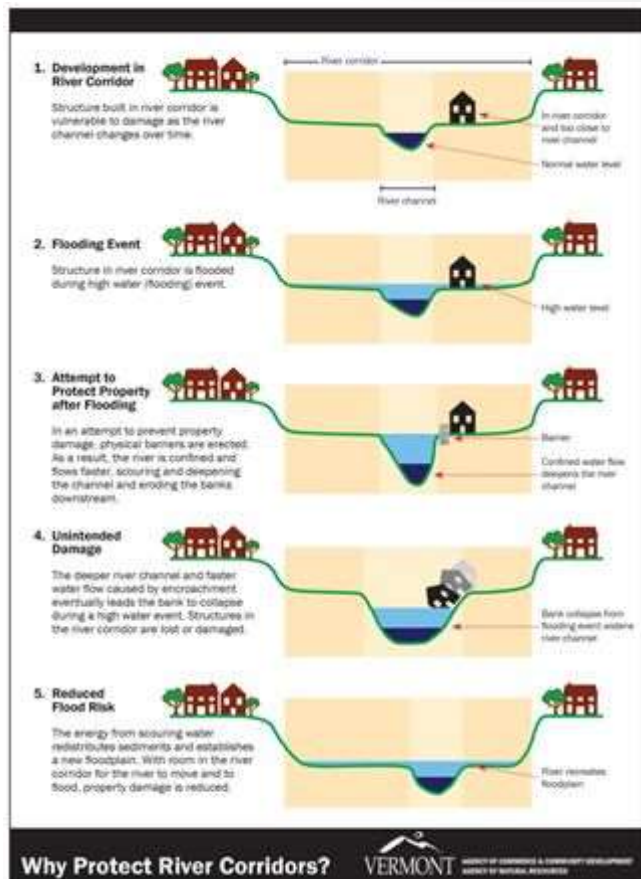
Wherever we are trying to protect roads and buildings we need to be sure that the river is able to function as well as possible upstream. We need functional streams and rivers with room to adjust (River Corridors) and functional floodplains to moderate the impact of high water events.

What is a River Corridor? / What is a Floodplain?

River Corridors and floodplains are different but related. The River Corridor is the area that provides the physical space that the river needs to express its energy and meander without causing it to dig down. A floodplain is the area where water flowing out over the river bank spreads out. River Corridors and floodplains overlap a great deal. One on top of the other there might be 60 – 90% overlap. But there are areas in the River Corridor that will be eventually shaped by the channel (but are currently high and dry); and other areas in the floodplain that will be under water during a large flood (but the river channel may not need to access). Together these areas describe the dynamic area affected by channel changes and by the extent of flood water.

The National Flood Insurance Program is managed by the Federal Emergency Management Program (FEMA) and the insurance program is focused on a particular sized flood. The NFIP focuses on a floodplain legally described as the Special Flood Hazard Area that has an annual chance of flooding of one percent or more. Sometimes larger floods (the 0.2% annual chance flood) are also identified by the NFIP. Within these mapped floodplain areas there are parts that get flooded much more often. Outside of the mapped areas the effect of larger floods is not shown.

With a one percent annual chance a structure affected by the base flood as shown in the Special Flood Hazard Area has more than a one in four chance of being affected by a flood during a thirty year mortgage. Over the same mortgage the same structure has less than a one in ten chance of being affected by fire.



Fluvial Erosion in Lowell

Please refer to Appendix A.

In the attached Appendix A you will see the complete set of 911 maps for the Town of Lowell. Each residence, camp and dwelling that currently has a 911 emergency house number is indicated on the map. All of the rivers and streams are highlighted in blue to show their proximity to the houses.

The Zoning Board has used this map to identify which houses are currently in flood zones or fluvial erosion hazard zones. Any dwelling that appears to be directly on a river bank or close to a stream is in jeopardy of damage from fluvial erosion. These have been circled in red.

It is difficult to tell from these maps how close each house is actually located to the river bed so some investigation will need to be done to accurately determine how many houses in Lowell are in jeopardy.

The Zoning Board will set the following plan with a completion goal of five years for update in the next Town Plan.

1. Survey the indicated properties on the maps attached in Appendix A circled in red and make an accurate list of all buildings that were built within 50 feet of the river bed. This list will also need to be separated into homestead vs. seasonal and camps to identify which homeowners are full time residents. The Zoning Board can work on this in conjunction with the Town Listers as they survey and inspect properties in the Town.
2. After defining the list of properties in Lowell currently in flood zones or fluvial Erosion zones each homeowner will be sent a package informing them of the designation and will be provided with educational materials, suggestions and web links on protecting their home in the event of a flood.
3. Properties that are considered at extreme risk will be noted and a list will be attached to the Towns Local Emergency Operations Plan (LEOP) so first responders and the fire department will be aware of which residents might need assistance first in the event of a flood.
4. The Zoning Administrator will be given the list so he can make considerations before approving any building permits for these locations.
5. The Town Clerks Office will also be given the list of properties so they can inform any real estate agents that the home is in a Town Flood Zone.

As stated, it is difficult at this time to determine how extensively fluvial erosion threatens the Town of Lowell until more research is completed. After this is done then the Zoning Board will be much better equipped to make determinations on the future plans to prevent fluvial erosion.

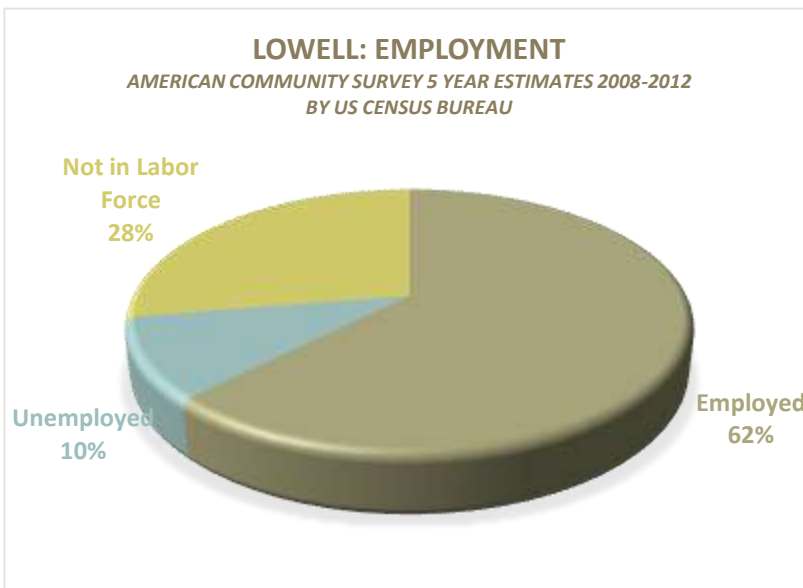


Economy

Employment

In this section we look at the economic characteristics of the community starting with the employment rates and statics. The table and pie graph show the percent of Lowell's population employed, unemployed and not in the work force.

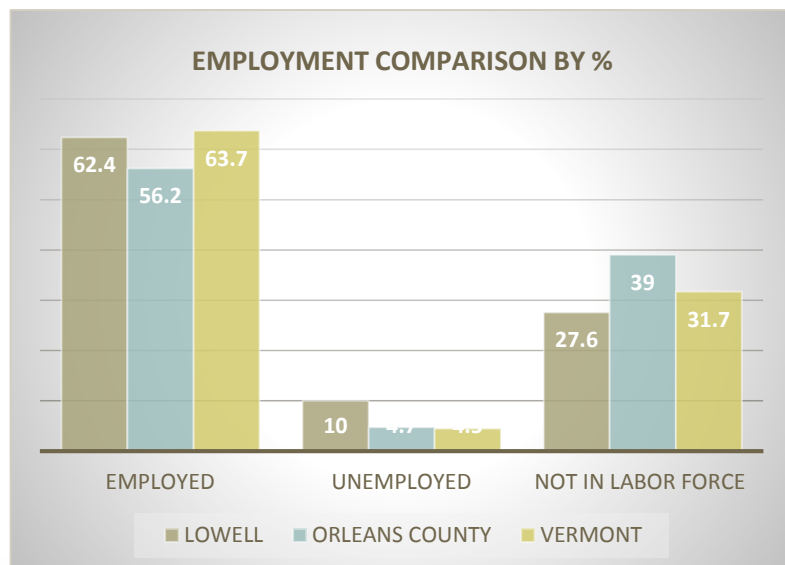
	LOWELL	ORLEANS COUNTY	VERMONT
Population Over the age of 16	670	22,245	513,968
In Labor Force	485	13,566	350,996
Employed	418	12,507	327,499
Unemployed	67	1,040	22,911
Not in Labor Force	185	8,679	162,972
Armed Forces			586



These were calculated from the US Census Bureau's estimated population total of the 670 of the total 879 persons who are over the age of 16; where 485 are registered as being known in the labor force and 185 were not in the labor force i.e.: retired, disability and non-work seeking/eligible individuals.

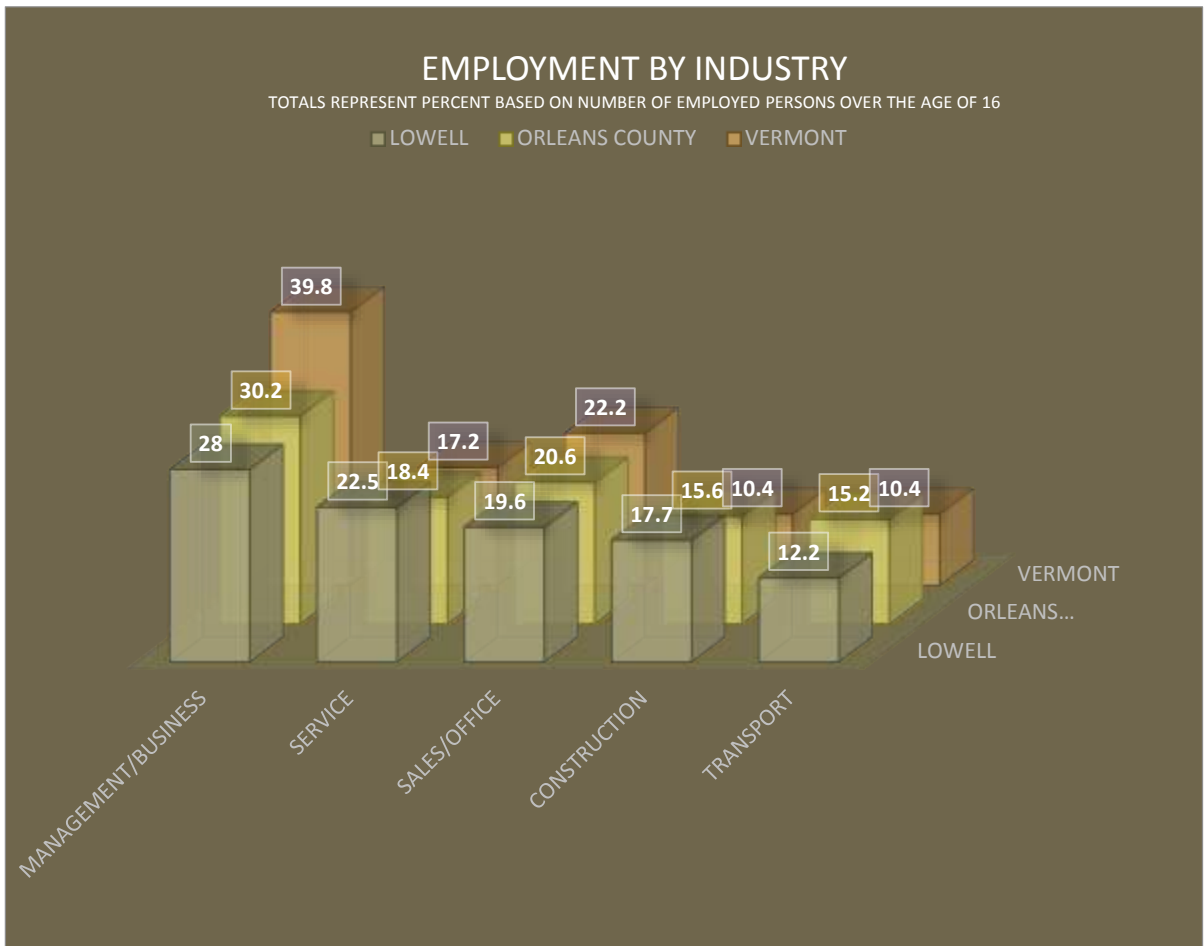
The graph below shows a comparison between Lowell, Orleans County and Vermont for employed, unemployed and not in labor force.

As you can see the percent of unemployed in Lowell is at an astounding 10% - over double what the state average is. This can be attributed to the remoteness of the Town and the limited area where employment is available.



The following chart illustrates the employment by industry comparing again Lowell to Orleans County and Vermont as a whole. These percentages were calculated by the total number of employed persons over the age of 16 and what percent of that total they each represented in the respective categories.

As you can see management and business are the highest for all three geographical zones. Sales and office were the second highest in both Orleans County and Vermont However the service industry was more predominant in Lowell.



82% of Lowell residents commuted to work while only 0.7% were able to walk. 14.6% were able to work from home and 2.2% listed as "other" form of transportation to their place of employment.

In Orleans County 87% reported as commuted to work and only 6.8% were able to work from home. In Vermont 84% of the population commutes to work while an average of 7% work from home and 6% live in urban areas where they are able to use public transportation.

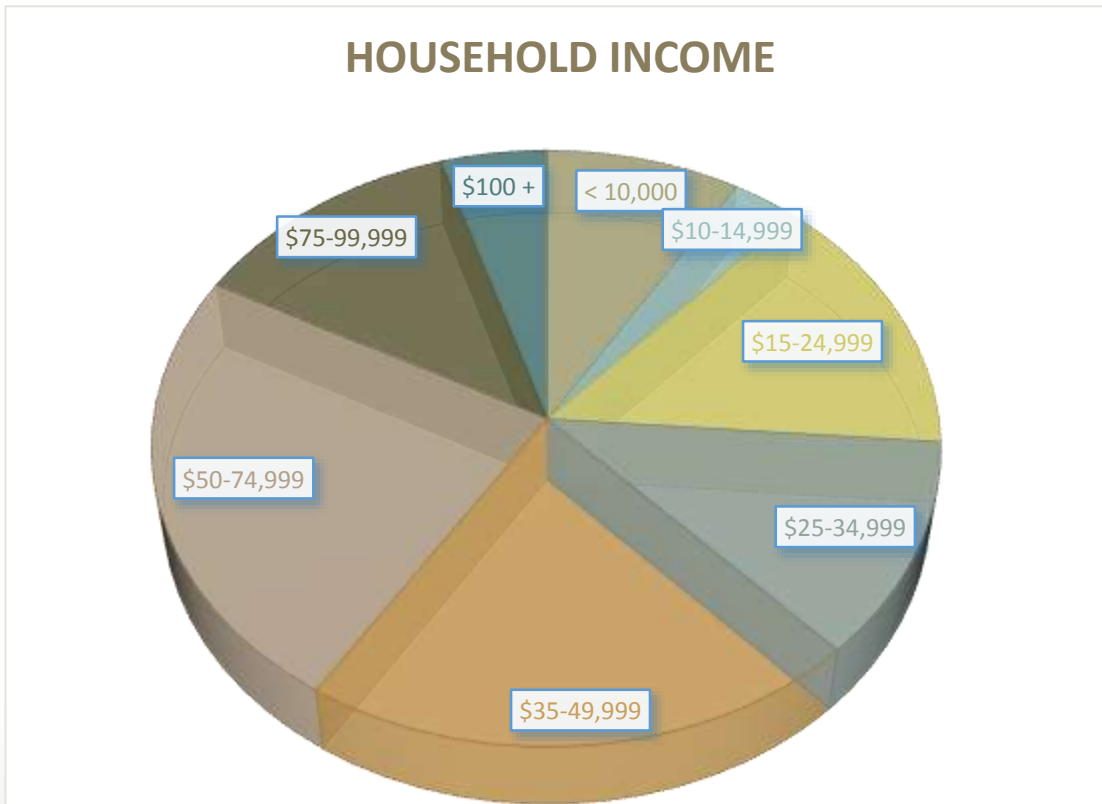
Income

Here we see the median household income in comparison to Orleans County and Vermont. Lowell's median income is higher than all of Orleans County but over \$10,000 less per year than the average in Vermont.

MEDIAN HOUSHOLD INCOME	
LOWELL	\$43,611
ORLEANS COUNTY	\$41,618
VERMONT	\$54,168

	LOWELL	ORLEANS COUNTY	VERMONT
Number Of Households	332	10,991	256,830
< \$10,000	8.7%	8.4%	5.9%
\$10-14,999	3.0%	7.3%	5.4%
\$15-24,999	14.5%	14.6%	10.3%
\$25-34,999	11.7%	13.1%	10.1%
\$35-49,999	21.1%	15.5%	14.6%
\$50-74,999	23.8%	21.1%	20.1%
\$75-99,999	12.3%	9.6%	13.8%
\$100,000 +	4.8%	10.4%	19.8%

Now we look at the breakdown of the income groups and the percent of households in each category. Which is also illustrated in the proceeding pie chart.



Local Businesses

As Lowell is relatively far from major centers of employment and industry it is important to realize some residents will wish to build their own businesses here. This should not be discouraged. Allowing retail business and light industry in the Village and Rural Residential districts should not be a cause of disruption or disharmony if the equal rights of all the residents of Lowell can be kept in mind and respected. While this plan may not discourage medium and large businesses from moving to Lowell from other towns and/or states, it should be recognized that these businesses are not as valuable to Lowell as the home grown businesses are.

Lowell is currently home to 6 privately owned businesses located in their own commercially zoned buildings. These are public establishments and do not include some of the many home based businesses that are growing in popularity. 4 of the 5 are located on the main highway through Lowell – Route 100.



Lowell Businesses:

1. **Cajuns Snack Bar - (Restaurant)**
1594 VT Route 100, Lowell, VT 05847
2. **The Hidden Country Restaurant**
201 Pope Road, Lowell, VT 05847
3. **The Rendezvous Bed and Breakfast**
2507 VT Route 100, Lowell, VT 05847
4. **Lowell General Store**
3042 VT Route 100, Lowell, VT 05847
5. **Missisquoi Lanes Bowling Alley**
3010 VT Route 100, Lowell, VT 05847
6. **Flash's Fix it Shop**
2370 VT Route 100, Lowell, VT 05847



The Zoning Board will welcome businesses to set up in the town in the future and will encourage the development should there be inquiries. Light, non-polluting businesses can add to the Town's employment and tax base. However, such development needs to be carried out without placing an undue burden on the Town's services or natural resources. Businesses that serve the community with goods and services should be given priority. Having local businesses supports the economy and prevents residents from having to travel into nearby towns and cities for necessities.

Town Government

Officials and Staff

The administration of the Town is the responsibility of a Town Clerk and Treasurer and an Assistant Clerk working closely with the Select Board. The clerk's office oversees the financial management of the town, maintains land records and associated documents, and provides management and administration for a variety of town projects.

A three member Board of Listers maintain the Town's grand list with the assistance of the Town Clerk. With the passage of Act 60, the Board was provided with computer equipment intended to help standardize property assessments in the State.

Property Tax maps are available at the Town Clerks office and copies can be obtained by residents when needed. This greatly assists the Zoning Board when reviewing plans for development as they can assess the property plots, location and possible hazards on surrounding land.

Capital Budget and Program

The following chart lists an overview of the Town's voted assessments for 2000 and 2010 giving a ten year comparison in the budget decisions. These are not the year end exact expenditures, but just the voted assessment by the Towns' people for that year.

TOWN OF LOWELL – VOTED ASSESSMENTS

	2000	2010	Difference
Select Board Assessments	107,150	225,000	+110%
Winter Roads	30,000	100,000	+233%
Summer Roads	25,000	85,000	+240%
Fire Department	15,000	16,500	+10%
Library	5,000	5,500	+10%
Sheriff's Department	3,000	10,138	+238%
Community Support	4,717	9,929	+110%

As of 2013 the Sheriff's Department is no longer an expense for the town. The people of Lowell did not renew the contract with the local law enforcement for the year.

As you can see expenses went up considerably in the last ten years. Select Board's Assessments was up 100% and roads maintenance was up over 200%. Community support which includes charitable donations, community appropriations and recreation was up over 100%.

If we consider that and then look at the chart below showing the total taxes billed in the corresponding two years we will see an increase of 135% which justifies the Town affording the raised budget assessment. The Town grew a considerable amount with a 154% property value increase and therefor expenses to maintain the Town need to mirror that.

	2000	2010	% Difference
Total Property Value	34,685,395	88,047,100	+154%
Total Taxes Billed	579,701,22	1,363,215.16	+135%

Economic Plan for the Future

The current economic base for Lowell relies predominately on outsource income to support town residents. There is very little industry with most available employment being that of small service businesses and small agriculture. The largest industry is currently the Kingdom Community Wind Farm operated by Green Mountain Power.

The outsource employment requires in many cases a commute which extends as far as Chittenden County which can support sometimes higher tier positions. There are a significant number of people who work more local and travel through Lamoille and Orleans counties. These positions vary from service jobs to education at local and regional schools as we saw in the employment overview earlier section. There are many seasonal jobs that supporting ski resorts to summer construction jobs.

Of the employment in Lowell there are several self-employment businesses which includes but is not limited to- 2 one person repair shops, a bed and breakfast, campground 3 operating dairies, a local general store, trucking businesses, sand and gravel, 2 – excavating businesses, masonry, landscaper, 2 - seasonal restaurants' and electronic scoreboards sales. The majority of this economic activity is surrounding the VT route 100 corridor.

With many of the workforce in seasonal positions there is often moderate unemployment requirements that are needed to provide families with a year round source of income. Many of these jobs may not meet the minimum annual family financial requirements.

Many of the services not provided or competitive to Lowell are sourced from neighboring areas and towns, in cases these include, but are not limited to Westfield, Troy, Morrisville, Eden, Orleans, St Johnsbury, Newport, other Chittenden and Orleans County areas and as far as Littleton, New Hampshire.

One of the key opportunities that we have identified that would support more home and/or small business with 20 or less employees, is to expand broadband or internet access. This would support home offices or business required needs that are essential to grow and operate in the current climate. There is also limited cellular service throughout Lowell; mobile access has also become very essential for many businesses to operate.

All towns' activities are supported through the Lowell Municipal offices; there is no Chamber of Commerce in Lowell or any other Industry supporting organizations.

Although Lowell expects that there will be slow to no growth for the next 5 years we would hope to see growth in the following areas:

- Small Industry- this could be a production type business or some service business that would support a regional need and bring financial support to the town and towns' people. These types of businesses are expected to be 20 employees or less, but are not limited to 20.
- The other area is for Home Business growth potentially providing services or operate professional offices.
- There is also still opportunity to reestablish smaller scale agriculture utilizing the open and available lands.

The main goal is to provide a mean livable wage for local and Towns people as Industry develops.

More needs to be done to establish better objectives and to set forth strategies that will accomplish needs for the Town of Lowell. The Zoning Board will need to discuss in the future and establish growth goals and monitor systems that need to be developed.

EDUCATION

Lowell Graded School

The Lowell Graded School opened in 1987 with 4 multi-graded classrooms for grades 1-8. Other rooms at that time included a library that was also used as a kindergarten, a gymnasium/cafeteria, a kitchen, and several small offices. The building had a design capacity of 75 students and when the building opened the actual enrollment exceeded 75 students.

Then in 1994 the school was enlarged to include a number of new rooms and a new K-8 multi-dimensional program. The list of new rooms includes a kindergarten room, a multipurpose classroom, a resource room, a Title One room, and a technology room that now houses 10 computers. This addition more than doubled the size of the school and increased the building's design capacity from 75 students to 120 students. With the completion of this addition, the school's staff was increased by 15 individuals so that the school could best make use of this new enlarged facility. These new staff members included mostly support staff necessary for the efficient daily operations of a school

The playground contains both homemade and commercial equipment like slides, swings, jungle gym, and others. The grounds are level and well maintained and include a nice softball/little league diamond and a separate soccer field.

In most ways the building is very adequate. It is well maintained and cared for. The classrooms are large with built in coat racks, teaching supply closets and book shelves. The playground, parking lot, and grounds are excellent and well maintained. Finally, in recent years the school has added new equipment, furniture, and supplies, which has greatly improved this facility.

Despite the adequacies of this building, inadequacies do exist and they include the following. The gymnasium lacks bleachers - thus seating for basketball games is inadequate. More classrooms and office/conference rooms are needed. This is because of high student/teacher ratios and often need to divide groups. On those days when art, music, and/or physical education are scheduled it is very difficult to separate classes to work in more than one location. Likewise, it is very difficult to find private locations for the school psychologist, psychological testing, speech pathologist, etc. When the school was built there was no consideration given for a guidance area or a time-out room. The addition of two classrooms and two office/conference rooms would ease these problems. Additional storage space is also needed.

Proposed

The Lowell School Board and Administration are no strangers to planning. These individuals are constantly looking at the Lowell Graded School with an eye towards identifying and solving problems and setting goals for the future of the school.

The current goals include the following:

- ❖ First and foremost - To become recognized as being among the best K-8 schools in Vermont.
- ❖ To improve students academic performance through the development and implementation of action plans. Currently, the action plan deals with the improvement of students understanding of math through the adoption of the Mathland and Math Thematics curriculum.
- ❖ To improve the alignment between student academic performance and the assessment results for all academic subjects.
- ❖ To strengthen every student's foundation in reading and math.
- ❖ To maintain a warm and nurturing school climate that will reflect the needs of all children and the ideals of the community.
- ❖ To maintain an atmosphere that is responsive to all members of the community.
- ❖ To continue to develop and expand our technology program.
- ❖ For the faculty and staff to gain the professional development necessary to bring about the realization of the goal of being recognized as being among the best of Vermont's schools.

The Lowell School Board has been involved in several projects relating to program improvement and expansion. These projects include the current action plan, which deals with revisions of the School's K-8 math curriculum to meet the new State standards and the creation of a block scheduling format for this year's students in grades 5-8.

Orleans-Essex North Supervisory Union Superintendent will be working with the Lowell School Board to expand the after-hours programming and use of the school. Many new programs, including drama, photography, volleyball, and technology have already been discussed with a great deal of interest. The Saturday evening Teen night will continue and be expanded this year with new offerings that are still being worked on. Tentative plans call for every other Saturday evening for teen basketball, volleyball, and other activities. The grant that funds the Saturday Teen nights is already in place.

The Lowell School Board has addressed many physical improvements in the last few years and is committed to staying on top of the school's needs. The board is currently discussing future expansions and researching the means to fund such expansions. Possible expansions being considered at this time include additional classroom and office space as well as seating in the gymnasium. The projected enrollment figures presented here support the need for such expansions as the Lowell Graded School's enrollment may exceed the School's design capacity within the next six years.

The demands for programs, improvements, and standardization are continuing. The school has made enormous strides in developing quality programs by using assessment results to

drive action planning and programs. The stability of the professional staff is allowing the school to move forward without the regression caused by employee turnover. Efforts will continue to improve upon the quality of education received by Lowell's children.

North Country Union High School

In 2008-09, 53 high school aged (grades 9-12) Lowell students attended school at the North Country Union High School in Newport City. For 2009-10 the total was approximately 48 students. The building was erected in 1967 and was designed for about 1,000 students. With a present enrollment of 1,000 to 1,100 students, the building is not considered overcrowded, however, the administration is aware of the fact that enrollment is above design capacity. In addition, over the last few years, enrollment at NCUHS has remained relatively stable.

The course of study at North Country has been designed to meet the needs of both the college bound student and those who desire to enter a career right out of high school. The college preparatory course of study includes the usual high school courses in English, social studies, mathematics, science, foreign languages along with options in art, music, business, and extracurricular activities. For those seeking to enter a career right out of high school, NCUHS offers the North Country Career Center. This program prepares students for careers in automotive technology, building trades, commercial art, office technology, computer-aided design and drafting, culinary arts, graphic arts/photography, the medical field, marketing, and metal fabrication. The North Country Career Center is also available to adults who are seeking new career skills.

In addition to the regular use of the building as a high school, the community also uses the building for other things as well. Both the Community College of Vermont and North Country offer adult education classes. Finally, local sports teams use the gymnasium and grounds for their games.

Staffing and textbooks are not a problem at this time. The school is adequately staffed and textbooks are kept up to date through an annual review process.

Computer technology plays an important role at NCUHS. At this time the school has one computer network with approximately 250 workstations, 220 of these workstations are for academic use while 30 are dedicated to administrative use. This new network represents a major improvement over and above the 2 networks that were in use just a few years ago. The first of these older networks was used by the students and had 25 to 30 stations. The second network was used by the administration and had 18 stations.

During the summer of 1998 a number of improvements were made to the building. These included improvements to the ventilation system and the science labs. The improvements to the science labs brought these labs up to what is considered state of the art.

Proposed

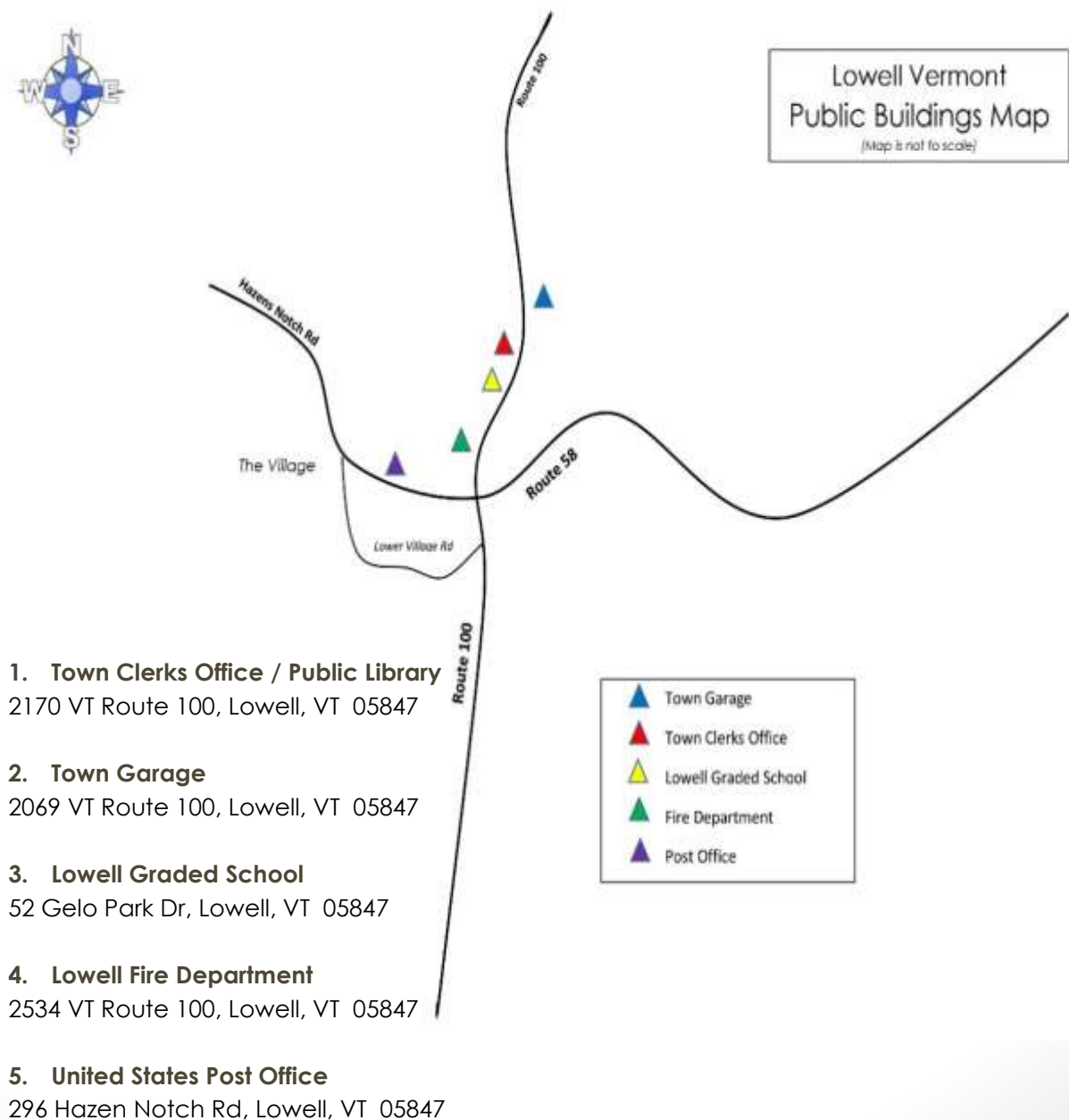
In the 1999 Annual Report, Robert McKenney, NCUHS Principal, made the following statement "... we shall seek to maintain the many fine programs we have, to improve those programs that may be improved and to implement new programs and procedures which will enable us to achieve our goal". That goal is "To educate all students to be self-motivated, life-long learners who respect and appreciate the world around them as responsible, productive members of society."

The Lowell Planning Commission encourages the administration and staff of the North Country Union High School, the Orleans - Essex North Supervisory Union, and the school board for this district to take the necessary steps to carry out the goal stated above. This will ensure a quality education at NCUHS that prepares students for life in an ever-changing world.

Map

The existing educational facilities map is on file in the Lowell Town Clerk's office and can be viewed there.

Public & Municipal Facilities



Churches

There are currently two public Churches in the Town and one Convent.

1. **St. Ignatius Catholic Church**
151 Hazen Notch Rd, Lowell, VT 05847
2. **Lowell Congregational Church**
2506 VT RTE 100, Lowell, VT 05847
3. **Carmelite Nuns of Vermont Inc.**
386 Stephenson Rd, Lowell, VT 0584



Library

The Lowell Library was founded in 1864 in a private home and later moved to the old Town Hall on Route 58 in the village. At one time the library had an annual budget of only \$100 and was very dependent upon private donations for its operation. In addition, the library was open only during the hours the Town Clerk's office was open. It was during those hours that the heat was on and at other times the library was too cold to be used comfortably. With the completion of the new town office building, the library has been moved from the old town hall into the new building.

At the present time the library has approximately 6,000 volumes (With room for approximately 8,000), a small reference section, and seven magazine subscriptions. Five of these subscriptions are for adults and 2 are for children. One of the seven magazine subscriptions is provided by donation. Funding for the library is provided by the Town of Lowell. Appropriations for the years 2012 and 2013 equaled \$5,500 for each year. The library's hours at this time are every Tuesday from 4:00 to 6:00 PM and every Saturday from 10:00 to 12:00 AM.

The Library now has a computer on site with internet access that is available for public use during library hours. It was felt this was a necessary addition to keep with the current times to have available to the town residents - especially students who may not have computer access at their homes. We have currently not seen an issue with only having one computer on site however should the demand arise for a second the Town will look at the possibility then.

Everything about the current library (funding, hours, number of volumes, etc.) has been deemed adequate to meet the current demands. The Zoning Board is pleased with and recognizes the library's adequacy, it strongly encourages Lowell's Select board and voters to take whatever actions are necessary during the time that this plan is in effect to ensure that the Lowell Library continues to meet the needs of the Town's residents.

Recreation



While the Town of Lowell does not have an organized recreation program, recreational options are available locally for those who enjoy the outdoors. Lowell's forests offer opportunities for upland game, deer and moose hunting, snowmobiling, cross-country skiing, snowshoeing, hiking and fishing. For those who enjoy indoor activities, Derby and Newport City can provide various forms of entertainment. While the Missisquoi Bowling Alley is a local place for some indoor fun.

Located at the Lowell Graded School is the school playground and Gelo Park. These areas, which include ball fields and basketball courts as well as the traditional playground equipment, provide opportunities for both children and adults.

For hiking, biking, snowshoeing, and Nordic skiing: The Long Trail passes through the western part of Town and the Town's roads provide ample opportunities for both road and mountain biking. In addition to the Long Trail, approximately 8.6 miles of the Catamount Trail also pass through Lowell. Some of the Catamount Trail follows the Bailey Hazen Military Road between Albany and Lowell. This trail, like the Long Trail, also runs the length of the State, but it is designed for snowshoeing and Nordic skiing. Summer use of the Catamount Trail is generally not permitted. Lowell's wilderness areas and many streams and rivers should also provide ample opportunities for hunting and fishing.

The Vermont Association of Snow Travelers (VAST) maintains trails in Lowell. One of these trails coincides with the Catamount Trail on the Bailey Hazen Military Road between Albany and Lowell.

In the area surrounding Lowell there are ample recreational opportunities. Jay Peak is located about 15 miles away and offers both alpine and Nordic skiing in the winter and hiking, mountain biking, golf, tennis and basketball in the summer. Burke Mountain is a little further away and offers both alpine and nordic skiing. Kingdom trails is located near Burke Mountain and offers hiking and mountain biking. Many of these same activities are also available south of Lowell in the Stowe area. For those who prefer the water, there are many lakes in the area that offer swimming, boating, and fishing. In addition to those opportunities listed here there are numerous other recreational activities to do in the area.

Recreational Planning

The Zoning Board does not see the need at this time to recommend any kind of an organized recreation program. However, because Lowell's recreational opportunities are dependent on the quality of Lowell's environment, it is necessary to protect and maintain Lowell's wonderful natural resources including the trails and streams, from development damage.

Fishing, hiking, and hunting on non-posted lands has always been accepted in Lowell. Since motorized vehicles can harm the land and cause great annoyance and inconvenience, permission (preferably written) should be secured before entering private land.

The Zoning Board recognizes the importance of the Town's recreational facilities and strongly urges the Town to budget the monies necessary to maintain these facilities. These facilities include the roads as well as the playground and sports fields at the school.



Public & Semi Public Uses

Generally, sufficient land area exists for public purposes. Sites for existing public buildings are adequate. It would be desirable to obtain additional property to expand the Town Forest at some point in the future to assure a sizable public holding of undeveloped land within the community.

Other Similar Facilities & Activities

With the completion of the new Town Office building, the Town of Lowell now has a modern facility that is more than adequate to meet the Town's needs for some time to come. The Zoning Board encourages the Lowell Select board to take the steps necessary to ensure that this building is properly maintained so that it will meet the needs of the Town for many years to come.

UTILITIES & SERVICES

Water - Wastewater/Sewage Disposal

The Town of Lowell does not have a municipal sewage disposal system or water supply system. All sewage disposal is handled by individual on-site systems. Water is supplied by drilled wells or on-site natural water springs.

At this time it is not feasible to build a municipal water supply or sewage disposal system. However, the Lowell Zoning Board is concerned about on-site sewage disposal and therefore recommends that before a site is developed it be carefully examined and tested before a septic system is installed. The Zoning Board fully advocates the Vermont Health Regulations and promotes the proper channels through the State regulatory boards to any residents looking to install septic systems. All systems must be in full compliance and must have proper permits in place before any construction is authorized to begin.

Storm Drainage

The Town of Lowell has very little in the way of storm drainage, all of which can be found in the village area along Route 58 west of Route 100. At this time these drains function properly with no known problems. The Zoning Board encourages the Lowell Select board and Road

Commissioner to monitor and maintain the current storm drains to provide a level of drainage that will prevent damage due to storm runoff.

Solid Waste – Household Refuse Disposal

Solid waste in Lowell is picked up by private contractors and hauled to the Waste USA land fill in Coventry. The cost for pick up is paid for on an individual basis by the Town's residents. As with water and sewer services the town does not feel at this time that a municipal service is needed nor is the cost warranted.

Recycling

The previous Town Plan adopted in 2009 reported that residents were required to take recyclables to a neighboring town for disposal. Since that time the Town of Lowell has provided residents with a local drop off point at the Town Garage. The bins are "all in one" and do not require sorting. The drop off is monitored by a 24 hour camera surveillance system to ensure unlawful dumping is not being practiced. The recycling is open to residents seven days a week from dawn until dusk. Anyone caught dumping non-recyclable materials in the bins is subject to a \$50 fine as stated in a new Town Ordinance adopted in 2014.

While the current system of dealing with solid waste and recyclables has been working well for the Town, there is a state-wide solid waste implementation plan coming into effect this year and all Towns must be in compliance by 2015. The Town Clerks office is currently working on the new plan which will be updated by the end of 2014 and will be introduced to the town in the most effect manner possible.

We are still unsure as to the extent of the changes these new requirements will bring and the Zoning Board will be prepared to update the Town Plan to necessarily reflect the new SWIP.

Energy

Electric Infrastructure and Services

Power is supplied to the Town by the Vermont Electric Co-op. With the installation of the new wind towers, Green Mountain Power maintains a transmission station on Rte. 100 in and all of the transmission lines and distribution are facilitated through the VEC.

VEC's distribution system line lengths have not changed significantly from the 45 miles reported in 2009, however all of the distribution assets along Rte. 100 in Lowell were rebuilt with the KCW project. These upgrades have greatly improved reliability.

The Lowell substation was upgraded from 2,500 kilo-volt amperes to 7,500 kilo-volt amperes when the VEC rebuilt the station in 2011/12. The station is now fed from the VEC 46 kilo-volt transmission system in the north which is connected to the VELCO 115 kilo-volt system. The old connection to the south is now used as a redundant source. Having dual sources from the north and one from the south has greatly improved operating flexibility and reliability.

The 46 kilo-volt transmission line between Jay and Lowell was rebuilt in 2011/12 as part of the KCW project. It has a capacity of 75 mega-watts which serves Lowell as well as serves as the

connection for the KCW wind farm to the VELCO bulk transmission system in Jay. This transmission line which is all to the north of the Lowell substation is jointly owned by GMP and VEC, with VEC being the operating authority and charged with maintenance.

Approximately four miles of new 46 kilo-volt line was built from the south of the Lowell substation to connect to the wind farm. This line is rated at 75 mega-watts as well and is only used to transport the wind farm output. This line is solely owned by GMP which they operate and maintain.

Telecommunications Facilities

AT&T has recently recorded a land lease with the Town Clerks Office to install a new cell phone tower on a piece of property located on Bousquet Road in Lowell. This should be completed and operational by 2015.

There has not been much debate about the project in Town and residents are not fighting the development as it seems to be considered a desired step forward. This will provide the residents with better mobile reception at their homes and many homes where there was no service will now be able to receive a signal.

This is a positive step for the growth of Lowell. As prospective buyers from out of town are looking at properties in Lowell it may be a deterring factor to not have cellular service at the proposed cottage/camp. This may be an incentive for newcomers and promote real estate sales.

Communication Infrastructure and Services

The Town of Lowell has limited DSL availability. It is the goal of the Zoning Board to rectify this and promote the extension of more dependable DSL lines for the residents.

Many residents rely on satellite internet providers and this source can be more costly and less reliable.

The Zoning Board will consider in the future installing a town wide "wifi" capability providing internet to all residents. However, this is a costly venture and is not feasible for the town at the moment. It will be discussed in future years to see if the Town can make this a reality for residents. The installation of the new AT&T Cell Tower might make the possibility more likely in the coming years.

Conservation and Local Generation

In 2010-2011 the Town of Lowell began discussing the proposal for the installation of wind turbines for renewable energy production. This was a project piloted by Green Mountain Power and the turbines would be erected on the mountain ridgeline between Albany and Lowell.

There was much debate over the project but in the end the Town's people voted in favor and the project was approved.





Working together with Vermont Electric Coop, Green Mountain Power has built 21 wind turbines along the ridgeline of the Lowell Mountain Range. This location offers both a reliable source of wind, and also the infrastructure necessary to bring the project online.

The project began generating electricity at the end of 2012.

The wind turbines at Kingdom Community Wind are 3 MW VESTAS V112, some of the newest technology on the market. When fully operational, the plant is expected to produce approximately 186,000 MWH annually or the equivalent of enough electricity to power more than 24,000 homes each year. Every kilowatt hour of electricity will be used by Green Mountain Power and Vermont Electric Cooperative customers.

The land leased for the project has been an active logging operation for decades. Of the thousands of acres that comprise Lowell Mountain a total of 135 acres was used for the wind plant. Direct impact to bear habitat totaled 20 acres, impact to wetlands totaled half an acre, and for high level wetlands the impact was one-tenth of an acre. To mitigate these impacts and the habitat fragmentation caused by the road, GMP procured conservation easements on over 2,800 acres. The conserved area includes over 1,100 acres on Lowell Mountain, and over 1,600 acres in Eden connecting important wildlife corridors between Green River Reservoir and the Lowell wildlife habitat area.

Power Generating Plants

While the Town of Lowell has little or no influence over the operation of the privately owned hydroelectric generating plants in Lowell, the Zoning Board does encourage the continued operation and maintenance of these sites as they are seen as a benefit to the Town of Lowell.

PUBLIC SAFETY AND EMERGENCY RESPONSE

Volunteer Fire Department

The Lowell Fire Station is located at 2534 VT RTE 100, Lowell, VT 05847. This is just north of the four corners intersection leading to the Village where Route 58 crosses Route 100.

The Lowell Fire Department is run by volunteers of which there are currently 16 actively enrolled people.

Equipment: The fire department currently has ownership of their own equipment including a 2000 International Pumper; 1992 International Tanker; 1982 GMC Rescue Van; a four-wheeler with a rescue sled and a 54kw generator.

When there are emergency's that exceed the capacity of the Lowell Fire Departments Equipment then other area rescue forces are called in to help; the closest being the Town of Troy.

There are currently no plans to change the set-up of the Fire Department or its function. The Town feels it has responsible and capable volunteers who can handle the call volume and expectations. The Town does not have the budget at this time to support a fully paid staff of fire fighters nor do they currently have the need for it. The Zoning Board does not see this being an issue or changing in the near future.

In 2013 the Lowell Fire Department had approximately 18 calls.

The following budget for the Fire Department was posted in the 2013 Town Report: \$25,000

Fire Safety Planning:

What is a Dry Hydrant?:

In rural areas where municipal water systems are not available, dry hydrants are used to supply water for fighting fires. A dry hydrant is usually an unpressurized, permanently installed pipe that has one end below the water level of a lake or pond. This end usually has a strainer to prevent debris from entering the pipe. The other end is above ground and has a hard sleeve connector. When needed, a pumper fire engine will pump from the lake or pond by drafting water. This is done by vacuuming the air out of the dry hydrant, hard sleeve, and the fire engine pump with a primer. Because lower pressure exists at the pump intake, atmospheric pressure on the pond or lake forces water into part of the dry hydrant above water, into the hard sleeve, and finally into the pump. This water can then be pumped by the engine's centrifugal pump.

Using this system Lowell has installed several Dry Hydrants around town as a preventative measure to combat fires however possible.

There are currently five active Dry Hydrants in the Town of Lowell – Irish Hill Road, Buck Hill Road, Route 58, Carter Road and Route 100.

The five dry hydrants were installed between 1997 and 2003. The Fire Department currently feels that the ones they have installed are sufficient for the Town and they do not see a current need to expand, however they will always be open to improving if locations are identified that would support such a system.

Police Protection

The Town of Lowell does not currently have its own police protection division. The Orleans County Sheriff's Department was previously commissioned to patrol the area but for the last few years the residents decided at town meeting to discontinue this service due to cost and to rely solely on the State Police.

The Vermont State Police have jurisdiction in the town of Lowell and are often seen patrolling the main roadways of Route 58 and Route 100. The issue of police protection will be one that is discussed at future Town meetings and the people of Lowell will decide if they feel it is necessary, if they feel the State Police are enough to keep the peace or if they want to invite the Orleans County Department back.

Lowell is not large enough to support its own Police Department and the Zoning Board does not foresee that changing in the near future.

Hospitals

Due to Lowell's rural nature, residents must travel to surrounding towns for health care. There are three hospitals located in the area.

1. **Northeastern Vermont Regional Hospital**

1315 Hospital Drive
St. Johnsbury, VT 05819
Telephone: 802-748-7400
Fax: 802-748-7398

Facility:

Critical Access Hospital
Licensed Capacity: 75 Beds, 10 Bassinets
Certified Capacity: 25 Beds
Swing Beds: Yes
Rehab Unit: No
Psych Unit: No



2. **Copley Hospital**

528 Washington Highway
Morrisville, VT 05661
Telephone: 802-888-4231
Fax: 802-888-8216

Facility:

Critical Access Hospital
Licensed Capacity: 43 Beds, 8 Bassinets
Certified Capacity: 25 Beds
Swing Beds: Yes
Rehab Unit: No
Psych Unit: No



3. **North Country Hospital and Health Center**

189 Prouty Drive
Newport, VT 05855
Telephone: 802-334-7331
Fax: 802-334-3240

Facility:

Critical Access Hospital
Licensed Capacity: 49 Beds, 16 Bassinets
Certified Capacity: 25 Beds
Swing Beds: Yes
Rehab Unit: No
Psych Unit: No



As it is very unlikely that Lowell will ever have its own hospital, residents will have to continue to use the hospitals and clinics located in surrounding areas. Therefore, the Lowell Zoning Board encourages the governing bodies of these health care facilities to monitor, maintain, and, when appropriate, increase the quality of service provided. The Zoning Board would also encourage the town to continue its support of those health care facilities for which support has been provided in the past.

Missisquoi Ambulance Service provides emergency service in the town. This cooperative service is owned by the Towns of Jay, Lowell, Troy, and Westfield. The ambulance is housed at the Jay Town Garage and staffed by volunteers. Patients are generally taken to the North Country Hospital in Newport City. During those times when the Missisquoi Ambulance Service is unavailable to assist those in need of such services, the Newport Ambulance Service covers for the Missisquoi Ambulance Service.



TRANSPORTATION

Town Roads

Mileage Summary Information was obtained from the Vermont Agency of Transportation. Mileage is confirmed as of February 10, 2013.

In the 2009 Town Plan it was reported a total of 23.71 miles under the Class 3 town roads. As you can see in the following table this has changed to 24.16 miles. This increase was reflected over three different roads:

1. Hwy #37 – Blodgett Rd which was originally 0.5 miles of Class four road until 0.20miles of that was upgraded to a Class 3 road.
2. Hwy #50 – Eden Rd which was originally 1.35 miles of Class 4 Road until the Town upgraded 0.56 miles to a Class 3 Road.
3. Hwy #11 – Baraw Rd which was originally Class 4 until the entire length of 0.45 miles was changed to a Class 3 road.

MILEAGE SUMMARY		
Class 1	0.00	
Class 2		
TH-1	4.15	
TH-2	0.50	
TH-3	5.20	
Class 3	24.16	
Total		34.01
Class 4	17.23	
State Highways		
Route 58	5.096	
Route 100	7.031	
Total		12.127
Total Town Mileage		46.137

The Town is very pleased to see the Class 4 roads decreasing and switching to Class 3 town maintained roads as it shows development and growth for the city. We hope to see more houses being built and the mileage increased on our Town Roads list.

The following is the detailed breakdown of road mileage in Lowell.

Transportation District #9 Vermont Agency of Transportation As of February 10, 2013

Length in Miles					
HWY #	Class 3	Class 4		Class 2	
5	0.15			TH-1	4.15
6		(0.61)		TH-2	0.50
7	0.50	(0.50)		TH-3	5.20
8	0.45	(0.31)		Total	9.85
9		(0.45)			
11	0.45			State Highways	
12	0.85			VT-58	5.096
13		(0.90)		VT-100	7.031
14		(0.90)		Total	12.127
15	3.33				
16	1.97			Total Travelled Highways	
17	1.33				46.137
18	0.10				
19	0.35			Hwy #	"Not up to Standard"
20		(0.80)		23	(0.12)
21	0.45			28	(0.12)
22		(0.60)		42	(0.24)
23	0.73	(0.05)		43	(0.10)
24		(0.19)		Total	0.58
25	0.45			<i>These roads are legally Class 3 but have been deemed "not up to standard" and are functionally Class 4 Town Highways</i>	
26		(0.60)			
27		(0.30)			
28	0.55				
29	4.35				
30		(0.70)			
31	0.05				
33	4.00				
34	0.25				
35	0.80				
36		(0.10)			
37	0.20	(0.30)			
38		(0.55)			
39	0.30				
41	0.50				
42	0.26	(0.40)			
44	0.18				
46		(0.40)			
48		(2.90)			
49		(0.45)			
50	0.56	(0.79)			
52	0.50	(3.40)			
54	0.27				
55	0.18				
56	0.05				
57	0.05				
TOTAL	24.16	16.20			

§ Vermont Statutes: Title 19 Chapter 3 defines the Road Classes as follows.

302. Classification of town highways

(a) For the purposes of this section and receiving state aid, all town highways shall be categorized into one or another of the following classes:

(1) **Class 1** town highways are those town highways which form the extension of a state highway route and which carry a state highway route number. The agency shall determine which highways are to be class 1 highways.

(2) **Class 2** town highways are those town highways selected as the most important highways in each town. As far as practicable they shall be selected with the purposes of securing trunk lines of improved highways from town to town and to places which by their nature have more than normal amount of traffic. The selectmen, with the approval of the agency, shall determine which highways are to be class 2 highways.

(3) **Class 3** town highways:

(A) Class 3 town highways are all traveled town highways other than class 1 or 2 highways. The selectmen, after conference with a representative of the agency shall determine which highways are class 3 town highways.

(B) The minimum standards for class 3 highways are a highway negotiable under normal conditions all seasons of the year by a standard manufactured pleasure car. This would include but not be limited to sufficient surface and base, adequate drainage, and sufficient width capable to provide winter maintenance, except that based on safety considerations for the traveling public and municipal employees, the Select Board shall, by rule adopted under 24 V.S.A. chapter 59, and after following the process for providing notice and hearing in section 709 of this title, have authority to determine whether a class 3 highway, or section of highway, should be plowed and made negotiable during the winter. However, a property owner aggrieved by a decision of the Select Board may appeal to the transportation board pursuant to subdivision 5(d)(9) of this title.

(C) A highway not meeting these standards may be reclassified as a provisional class 3 highway if within five years of the determination, it will meet all class 3 highway standards.

(4) **Class 4** town highways are all town highways that are not class 1, 2, or 3 town highways or unidentified corridors. The Select Board shall determine which highways are class 4 town highways.

(5) Trails shall not be considered highways and the town shall not be responsible for any maintenance including culverts and bridges.

Highways & Streets

Lowell, as a rural community, depends entirely on its highway system and private vehicles for transportation purposes. Thus, the highway system is of the utmost importance. Within the Town of Lowell there are two State highways. Route 100 is a north/south highway providing access to Newport City to the north; Morrisville, Stowe, and Interstate 89 to the South. Route 58 is the east/west highway and it provides access to Barton and Interstate 91 to the east; Montgomery and other points to the west. Route 58 to the west of Route 100, however, is a town road with a gravel surface. This portion of Route 58 passes through Hazen's Notch and is closed during the winter months.

Route 100, classified as a rural minor arterial, passes through the Missisquoi River valley and is generally in good repair, it has paved shoulders that are two feet wide, and has relatively few problems. The problems that do exist include an unsafe segment between mile markers 5.6 and 5.9 , poor pedestrian access to the Lowell Graded School, and a dangerous intersection with Route 58. To the north of the Village is a segment of Route 100 (between mile markers 5.6 and 5.9) with an "S" curve that makes it difficult for northbound drivers to see the farm and cattle crossing to the north (this farm is not currently in operation and therefore not a hazard at this time).

Route 58 to the east of Route 100, which is classified as a major collector, passes over the ridge that forms the northern end of the Lowell Mountains and therefore provides many scenic vistas to the west and north. This highway needs to be repaved but it has not yet been included in the State's repaving program. That portion of Route 58 west of Route 100 is an unpaved Class 2 town road that is eligible for State and/or Federal funds for maintenance

Future of Roads

The Zoning Board would like to see something done to the intersection at Route 100 and Route 58 – the Four Corners leading to the Village.

The intersection of Routes 58 and 100 is hazardous due to the fact that Route 58 enters Route 100 on a hill. This hill prevents southbound drivers on Route 100 from seeing cars turning onto or crossing Route 100 and it prevents drivers on Route 58 from having a clear line of sight to the north along Route 100.

This intersection is deemed by many in the Town as dangerous as it is a main crossing with limited visibility. It is also the junction where the speed limit reduces to 35 miles per hour and many drivers travelling the highway do not reduce their speed along Route 100 going past the School and the Town Clerks Office.

In 2007 a survey was done by the Northeastern Vermont Development Association which counted the number of passing vehicles along VT Route 100. The designated spot being 1000 feet north of Eden TL.



- ❖ Between Tuesday July 17, 2007 and Sunday July 22, 2007 the total number of vehicles that passed was 3057 with the high peak times averaging around 240 cars in an hour.
- ❖ Between Monday July 23, 2007 and Friday July 27, 2007 the total vehicles passing through was 3393 with the highest average per hour being 263 vehicles.

Nothing was done to the intersection after this road survey was completed and no conclusive evidence or recommendations were provided to the Town or the Zoning Board with analysis of the results.

Proposed Highways & Streets

In small towns like Lowell, problems with roads perhaps revolve more around maintenance and improvement of existing roads rather than the need for new roads. In particular, the Zoning Board would like to suggest that the Town use more sand and less salt on the roads during the winter months. This will, in the long run, improve the water quality in Lowell.

Upgrades that will improve safety for all users should also be considered. Suggested projects include the posting, by the Town and/or State, of reduced speed limits along Route 100 in the vicinity of the Village; additional guardrails along the back roads where needed; and as mentioned maintaining a safer intersection at Route's 58 & 100. These improvements are absolutely necessary to make Lowell's roads safer.

Parking Facilities

Due to Lowell's rural nature and limited number of businesses, Lowell does not need any public parking facilities to serve the Town's businesses. However, the fact that more than half of the Town's residents commute to work in other towns, the Zoning Board does recommend the creation of a small public parking lot for the benefit of those who car pool. Such a

parking lot should also include one or more bicycle racks. The Town could consider buying some undeveloped property in the Village area to develop this idea.

Transit Routes

Residents of the Town of Lowell, as well as non-residents, who own land in Lowell, are most dependent on Routes 58 and 100, as these two routes are Lowell's main connection with the rest of the world. Therefore, the Zoning Board would like to stress to the Vermont Agency of Transportation how important it is that these roads are well maintained and/or improved when appropriate. In particular, we would like to see the State repave that portion of Route 58 between Lowell and Irasburg.

Terminals

At the present time, the nearest bus routes (Rural Community Transit) are in the Newport City – Derby and St. Johnsbury – Lyndon areas. These routes do not serve Lowell. Service going outside the State of Vermont is also available in White River Junction.

Scenic Roads

Some of the scenic features of Lowell to celebrate are:

- Beveledere Mountain
- Route 58 corridor
- Hazens Notch Road
- Bayley Hazen Road
- Route 100
- Long trail

Route 58 is perhaps the most scenic road in Lowell. This highway passes over some of the higher elevations in Lowell and offers some spectacular views. That section of Route 58 between Irasburg and Route 100 crosses an elevation of almost 1,700 feet above sea level.

Airports

Vermont is home to a network of 10 airports around the State. Two of these airports are located within a 20-mile radius of the Town of Lowell - Newport State Airport located in Coventry and the Morrisville-Stowe State Airport.

The Newport State Airport, located in Coventry, was constructed in 1941 and has two paved runways that are 4,000 feet long. The runways are designed for aircraft weighing less than 12,500 pounds and with wingspans less than 79 feet. Visual and navigational aids are available which allow for non-precision approaches for aircraft equipped with electronic navigational instruments.

The Morrisville-Stowe State Airport, located in Morristown, was also constructed in the 1940's and has one paved runway that is 3,700 feet long. The design specifications for this runway are similar to those of the Newport State Airport. Visual and navigational aids are available which allow for non-precision approaches for aircraft equipped with electronic navigational instruments.

Both of these airports provide a number of activities that are beneficial to the surrounding areas. Perhaps the most important are the search, rescue, and law enforcement services. From an economic perspective, there are a number of business uses that are available as

well including shipping, education, training, aerial inspections, photography, and advertising. Finally, these airports also provide an opportunity for recreational pilots to enjoy their hobby.

For traditional commercial service one must travel to Burlington; Rutland; Lebanon, NH; Manchester, NH; Boston, MA; Portland, ME; or Montreal, QC.

Railroads

The nearest railroad terminals are located in Newport City and Orleans. Freight service is available from these two points; however, there is no passenger service offered. The nearest passenger terminal is located in Montpelier.

While the Zoning Board realizes that rail service in and near Lowell has little or no benefit for most of the residents of Lowell, we do realize that such service may benefit the region. Therefore, should the County consider a freight service the Town would be very supportive of the endeavor.

Trucking Transport

Lowell is located on highways that are commonly used for trucking transport through Vermont – Route 58 and Route 100 are both passages to neighboring towns and even toward the Canadian Boarder for international shipments. There are many trucks that travel along these routes daily.

The Select Board has done everything it can to ensure the Town has information on frequent travelers including requiring "Truck Weight Permits" be filled out and submitted to the town yearly. These are recorded at the Town Clerks Office along with proof of liability insurance from each company. This ensures the Town has information on hand of all the Trucks travelling through on a regular basis.

Although at this time the Zoning Board does not see any hazards or serious ramifications of being on this route they will continue to keep its eye on the trucking volume and approach the Select Board with any concerns.

For future development if the trucking traffic continues, the town may want to consider applications for restaurants, rest stops or other businesses directed at trucks travelling through the town.

Bridges

There are 5 major bridges in Lowell that have a span greater than 20 feet across. They are all owned and maintained by the Town. The Agency of Transportation performs inspections of these bridges yearly to ensure they are up to State and Federal safety standards.

As per the 2010 Bridge Inspection:

- 2 located over the East Branch both rated in very good condition.
- 1 located at the Burgess Branch rated in fair condition
- 1 located across Potter Brook rated in good condition.
- 1 located at E. Br. Missisquoi River rated in very good condition.

Over the last few years however, the stormy winter months have taken their toll on these bridges and the condition of a few have deteriorated. The 2013 bridge inspection reports

the Burgess Branch crossing that was in “fair” condition is now rated as “poor” and the Town must do something in the near future to fix this crossing before it is no longer useable.

The Select Board in conjunction with the Road Commissioner is responsible for the bridge repair and maintenance and it is not up to the Zoning Board to make any decisions on the bridge maintenance. However, when the Zoning Board is presented with permit requests for building they will need to be aware of the bridge locations and condition so residents can be warned if there is a conflict with crossing or working around access that requires bridge use.

Environment

Climate and Air Quality

Average annual rainfall in Lowell is 46.2” according to averagerainfall.com
The average rainfall in Vermont is 42.7”.

The average annual snowfall in Lowell is 104.2” with the record being set on March 7, 2011 for most snowfall in a 24 hour period when the town received 26” of snow.

Lowell has very typical Vermont weather in that it is “ever changing” and varied. So to understand the climate in Lowell we can easily look at the weather descriptions in Vermont as a whole and apply it to our Town.

Vermont Climate

THE FOLLOWING DESCRIPTION HAS BEEN EXTRACTED FROM A NOAA/NESDIS/EDS/NCC REPORT ENTITLED “CLIMATE OF VERMONT”, CLIMATOGRAPHY OF THE UNITED STATES No. 60.

CLIMATE OVERVIEW

Like other New England states, the climate of Vermont can be described as changeable; with a large range of diurnal and annual temperatures; great differences between the same seasons in different years; and considerable diversity from place to place. Factors such as elevation differences, terrain variations and distance from water bodies like Lake Champlain and the Atlantic Ocean, have led to three climatological divisions across the state (Western, Northeastern and Southeastern). The Western division is a relatively narrow band running the full length of the state west of the Green Mountains. It is least affected by the Atlantic Ocean influences. The Northeastern division is the largest of the three and includes the northeastern, north-central and east-central parts of Vermont with the exception of a narrow segment along the Connecticut River Valley in the east-central region. This latter segment is included in the Southeastern Division due to its lower elevation.

Winds come primarily from the west, so that Vermont can be said to lie in the “prevailing westerlies”. In winter, this is primarily a northwesterly flow that becomes southwesterly during the summer. The local wind flow is influenced by the topography such that many areas have prevailing winds that blow parallel to a valley. The contrasting air brought into the region by the westerlies interacts to produce low-pressure storm systems. Relative to most other sections of the country, a large number of these storms pass over or near to Vermont. The air masses that affect the state tend to be a) cold, dry air from the North American subarctic, b) warm, moist air from the Gulf of Mexico and other subtropical waters, and c) cool, damp air from the North Atlantic Ocean. The pathways of the air masses passing through Vermont

are constantly changing so that the origins of our air today may be very different from tomorrow.

There is no single controlling factor in the weather regime, but rather a variety of weather patterns. Thus, weather averages alone are usually insufficient for important planning purposes. Typically, the movement of the above mentioned contrasting air masses and the relatively frequent passage of low pressure systems leads to a bi-weekly alternation from fair to cloudy or stormy conditions, often with abrupt changes in temperature, moisture, sunshine, wind direction and speed. This sequence is neither regular nor persistent, and weather patterns can remain the same for several days or even weeks. Vermont weather is therefore changeable, both on the short and long time scales. A given month or season will display varying characteristics over the years, but a normal month or season tends to be the exception rather than the rule.

TEMPERATURE

Average temperatures vary according to factors like the elevation, slope and local features such as urbanization. As of 1994, the lowest temperature on record was -50 F on December 30, 1933 at Bloomfield (elevation 915 feet). The highest temperature on record of 105 F occurred at Vernon (elevation 310 feet) on July 4, 1911.

Summer temperatures tend to be uniform across the state. The frequency of days during which the maximum reaches at least 90 F varies with location and from year to year. Such high daytime readings can be followed by nighttime temperatures of 60 F or lower. The average daily temperature range is 20 -30 F, with more variation observed in the southern parts of the state than the north.

PRECIPITATION

Precipitation is received throughout the year, although in the northern and western sections of the state the winter amounts are somewhat less than those observed during the summer. The influence of the North Atlantic Ocean on the precipitation regimes is best observed in southeastern Vermont, becoming weaker with increasing distance from the ocean. Most of the precipitation is generated by frontal systems. During the summer, thunderstorms are responsible for the heaviest local rainfall intensities. Road washouts, flooding and soil erosion are occasional effects of such storms.

Freezing rain occasionally occurs, sometimes more than once per winter in certain regions. In January 1998, a widespread icing event took place across the northwestern part of Vermont, surrounding New England states and southernmost parts of three Canadian provinces. Although 2.11 inches of rain were received on January 8, 1998 at the peak of this ice storm, the record daily total stands at 8.77 inches on November 3-4, at Somerset during the 1927 flood.

SNOWFALL

Yearly snowfall totals vary except along parts of the Connecticut River Valley and the western division where typical values range from 55 to 65 inches. Totals vary dramatically with elevation over short distances. Large differences are also observed from one season to the next, from one location to the next as well as for the same month over different years. During most winters, several snowstorms of 5 inches or more are to be expected.



Blizzards of a variety of magnitudes have been observed, ranging from the Great Blizzard of 1888 to the Super Storm of 1993. On February 25, 1969 - 33 inches of snow was recorded in St. Johnsbury. Many of the more severe blizzards tend to be nor'easters which generate very strong winds, heavy rain or snow.

Asbestos Mine

With the presence of the abandoned asbestos mine there has been great debate over the years as to the health risks associated with environmental exposure.

In 2009 the Vermont Department of Health did a study on the long term effects of exposure to the mine. This was a follow up to a study published in 2005 that was questioned.



The 2009 Conclusion by the Department of Health was:

VERMONT2009

Case Series Follow-up to A Cross-Sectional Study on Morbidity & Mortality among Vermonters Residing Near an Asbestos Mine

April 1, 2009

This study found that all five of the deaths from asbestosis that occurred in the area surrounding the mine during the years 1996 to 2005 can be explained by occupational exposure to asbestos. When taken together with the earlier conclusions of the December 9, 2008 report, this study confirms that there is no evidence that people living in the 13 towns surrounding the mine have a higher risk of dying from non-occupational asbestos-related diseases than people elsewhere in the state of Vermont.

The hospital discharge findings do not diminish that conclusion. This study does not indicate that asbestosis hospitalizations or deaths were caused by living near the mine.

❖ **Recommendations**

The Vermont Department of Health recommends:

- A. That the Agency of Natural Resources and the Vermont Department of Health, partnering with federal agencies, continue with planned environmental sampling at the perimeter of the mine, on the mine site, and with other sampling as indicated.*
- B. That the public be advised to stay off the mine for health and safety reasons, and that access to the mine be restricted.*



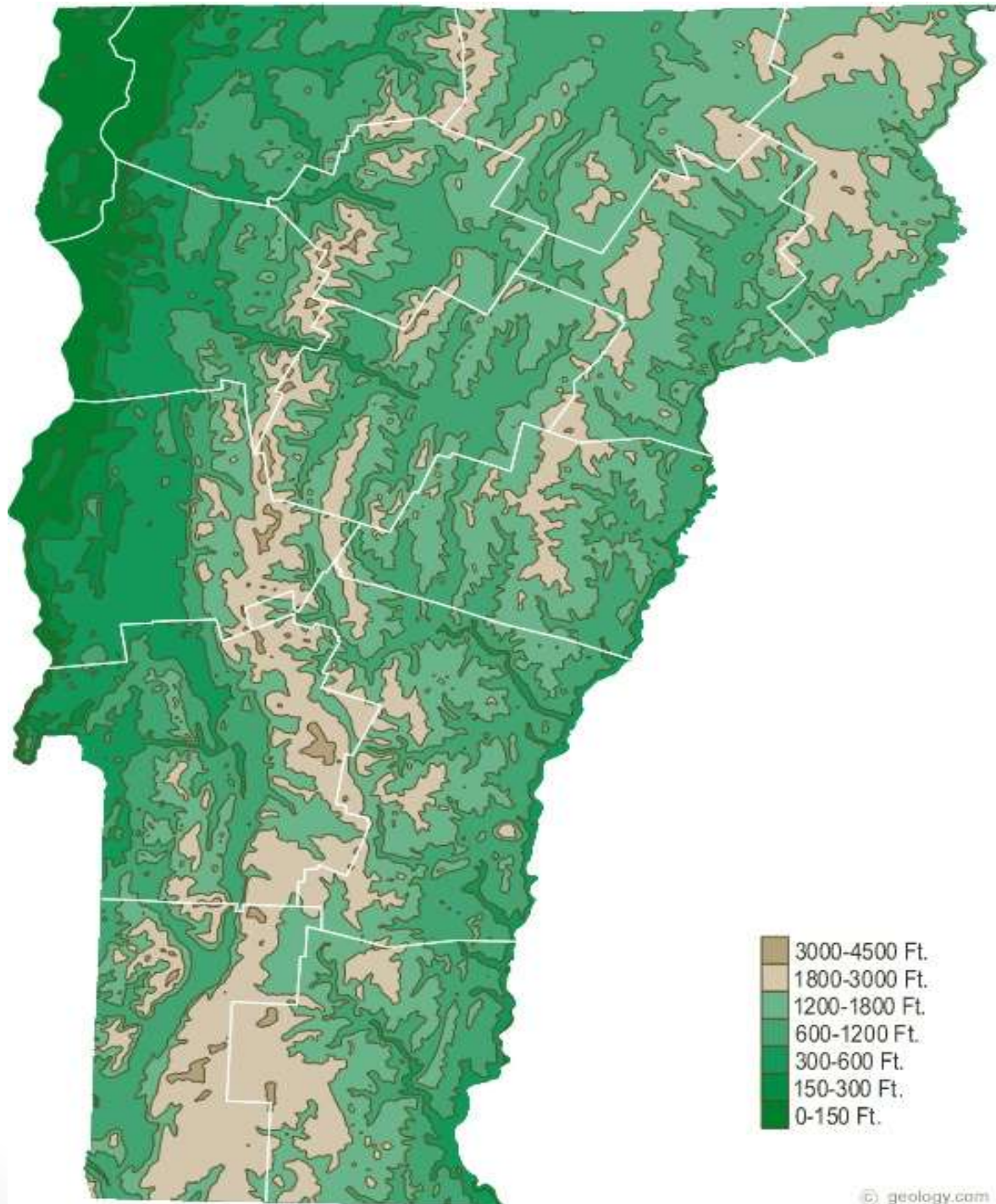
The full study and report can be found at healthvermont.gov.

In response to this study the Zoning Board does not feel there is any action needed on the issue of the mine nor is it an immediate risk or threat to the residents. Continued studies are being performed by the Department of Health to ensure the safety of the residents and the Town will be kept updated on their findings.

The Zoning Board is aware of the location of the mine and affected areas so development on these lands can be intervened. The grounds must be left alone because if the soils are disrupted it will cause the carcinogen to become airborne which can pose health threats. The only duty of the Board at this time is to ensure that no development is done on the land or affected areas.

Elevation and Geology

Located in the Mountains, the Town of Lowell sits at an elevation of 996 ft. We can see here the varying elevation in Vermont where Lowell seems to be sitting in the mid-range.



SOILS

There are three major types of Soil found in Vermont:

Winooski

- Winooski series soil was first discovered and cataloged in 1938, named for the Winooski River. Winooski soil is created in deposits of fine silt and sand, most of which has been transported by flood waters. Winooski is found in fertile floodplains. Because the soil is susceptible to erosion during flooding, it's advisable to plant trees and other natural safeguards to help prevent the soil from washing away.

Tunbridge

- Tunbridge Series soils are dark, loamy and well-draining, originally formed in glacial till. The soil is found over granite, schist and other types of bedrock. Tunbridge, which predominantly occurs in mountain regions, is found in all but one county of Vermont. Tunbridge soils are popularly used by woodland farmers. Ash, beech, birch, pine, spruce and maple trees are commonly grown in Vermont on tunbridge soils. Vermont's famous maple syrup is produced through sugar maples, which grow well on tunbridge soil.

Hinckley

- Hinckley series soils are deep and well-draining, found on plains, deltas and steep terraces. Hinckley soil is slightly sandy and loamy, often found at elevations of 875 feet. The soil is grayish-brown in color and fine-grained to the touch. Hinckley soil is found in woodlands and forested areas.

Soil conditions are very favorable to industries such as sugaring where the Maple trees flourish. Understanding the soil conditions is important for the Zoning Board to note so they can be aware of which areas are preferable for building vs. agricultural and can then make recommendations to residents.

Water Resources

Orleans County is home to Lake Mephremagog, Seymour Lake and the Barton and Black River. The Missisquoi River runs through Lowell as well as many small streams and ponds.

We can see there are a fair amount of waterways running through the Town which provide many of the residents with the option of supply their homes with spring fed water.

However, these areas also provide a higher risk for flood zones and more information can be found on that in the Flood section of this Town Plan.



Wildlife and Fisheries



Wildlife is an important resource for any community. The presence of wildlife is an indication of a healthy, sustainable environment. A diverse and large wildlife population will be a good basis for recreation, in the form of hunting and trapping. Lowell has an extraordinary range of habitats, characterized by many elevation differences, and thus hosting a diverse collection of wildlife and bird populations.

Wildlife is generally considered to be animals which are not domesticated. Wildlife is mobile and uses different areas for living, eating and sleeping; because of their mobility wildlife is difficult to inventory.

The following are some of the wildlife species found in Lowell:

- *Deer, turkey, water fowl, raccoons, skunks, fisher cat and bobcats.*

Common species of fish found in Vermont are:

- *Lake and river trout, bass, pike, pickerel, perch and land locked salmon.*

Moose are common to the area and are prevalently seen during the months of May and October. Signs are posted to warn motorists along Route 58 and Route 100 where moose are commonly known to cross the street.

It is very important for a community to protect its natural inhabitants and their habitat. There is no urgency in Lowell for extra measures to be taken to control or protect the wildlife population but the Zoning Board will keep attune to the environmental concerns and ensure no building or development becomes a severe detriment to any one wildlife species.

Problems related to wildlife:

- Lack of access for hunters from excessive posting,
- Lack of all stream side buffers, resulting in a fragmented habitat
- Little money in the trapping business,
- Misfiring by hunters; firing of horses, dogs and the destruction of fences.

Hunting

The following charts are courtesy of the Vermont Fish and Wildlife Department. Information shown here is limited and full charts and regulations can be viewed at www.vtfish@wildlife.com

These charts list the fishing and hunting seasons with specific dates. These are important for the Town to note as a large percentage of the Town's population participate in the sport. As State land rules indicate if the area is not "posted" then hunting is allowed. Residents must be made aware of these open regulations and if they do not wish to witness they must post their land which can be done at the Town Clerks Office.

Big Game Hunting

Deer	Bow & Arrow		Oct. 4 – 26 & Dec. 6 – 14
	Youth Deer Weekend		Nov. 8 – 9
	16 Day Regular		Nov. 15 – 30
	Muzzleloader		Dec. 6 – 14
Black Bear			Early Season: Sept. 1 – Nov. 14 Late Season: Nov. 15 – 23
Turkey	Youth Turkey		April 26 – 27
	Spring Season		May 1 – 31
	Fall Seasons	Bow & Arrow only	October 4 – 24
		Shotgun or Bow & Arrow	October 25 – Nov. 2 October 25 – Nov. 9
Moose			October hunting season: permit lottery held each year.

Small Game Hunting

Hare, Rabbit	Sept. 28, 2013 – March 9, 2014 & Sept. 27, 2014 – March 8, 2015
Gray Squirrel	Sept. 1 – Dec. 31
Ruffed Grouse (Partridge)	Sept. 27 – Dec. 31
Woodcock, Waterfowl	To Be Announced
Crow	March 14 – April 30 & Aug. 16 – October 29

Furbearer Hunting



Bobcat	Jan. 10 – Feb. 7
Red & Gray Fox	Oct. 26, 2013 – Feb. 9, 2014 & Oct. 25, 2014 – Feb. 8, 2015
Raccoon	Oct. 11 – Dec. 31
Muskrat	March 20 – April 19
Coyote	Open Year Around
Marten, Lynx, Wolf, Eastern Mountain Lion	Closed Season

Furbearer Trapping

Mink, Skunk, Red & Gray Fox, Raccoon, Coyote, Opossum, Weasel	Oct. 25 – Dec. 31
Otter	Oct. 26, 2013 – Feb. 28, 2014 & Oct. 25, 2014 – Feb. 28, 2015
Muskrat	Oct. 26, 2013 – March 31, 2014 & Oct. 25, 2014 – March 31, 2015
Fisher	Dec. 1 – 31
Bobcat	Dec. 1 – 16
Beaver	Oct. 26, 2013 – March 31, 2014 & Oct. 25, 2014 – March 31, 2015
Marten, Lynx, Wolf, Eastern Mountain Lion	Closed Season

Trout & Landlocked Salmon	April 12 – Oct. 31
Lake Champlain	No Closed Season
Largemouth & Smallmouth Bass	June 14 – Nov. 30
Catch & Release — Lakes and Ponds	April 12 – June 13
Pickereel, N. Pike, Yellow Perch	No Closed Season
Walleye All waters except Chittenden Reservoir and the Connecticut River	May 4, 2013 – March 15, 2014 & May 3, 2014 – March 15, 2015
Chittenden Reservoir and Connecticut River	See Tables 2 and 4
Smelt	No Closed Season
Free Fishing Days	Jan. 25, and June 14, 2014

Wildlife Management Areas

First established in 1919, Wildlife Management Areas (WMA's) help conserve fish, wildlife and their habitat, while providing people with opportunities for fish and wildlife-based recreation. The Vermont Fish & Wildlife Department currently owns 89 WMA's totaling 133,000 acres throughout Vermont. All WMAs are open to hunting, trapping, fishing, wildlife viewing and other wildlife-related outdoor activities. Management and administration of all WMAs is primarily funded through the sale of hunting and trapping licenses, and from the Federal Aid in Wildlife Restoration (Pittman-Robertson) Fund, in which excess taxes are paid on firearms, ammunition and archery equipment. The Vermont Fish and Wildlife Department uses this money for acquiring land for wildlife habitat, and for restoring and managing wildlife.

The Vermont Agency of Natural Resources supplied the image below where you will see that Lowell is not home to a Wildlife Management area but there are two in neighboring Towns: Wild Branch WMA in Eden, VT & Avery Gore WMA in Montgomery, VT



Regional Connections

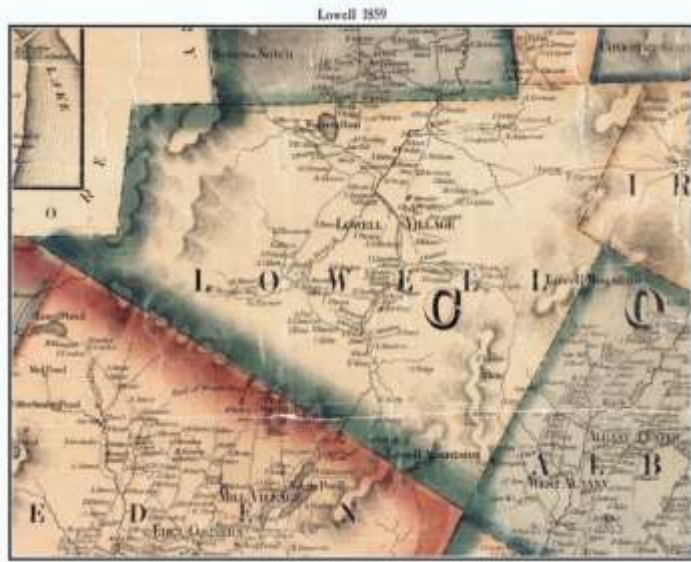
Compatibility with Neighboring Communities

ADJACENT TOWNS & THE REGION

The Town of Lowell is bordered by seven towns. These include Albany, Eden, Irasburg, Montgomery, Newport Center, Troy, and Westfield.

Albany

The Town of Albany does not currently have an adopted Town Plan. However the Zoning Board does not feel there are any developments that Albany could impose that would effect Lowell because of the geographical location in relation to our Town. That area along both sides of the Lowell/Albany town line is remote and inaccessible. In addition, the ridge formed by the Lowell Mountains is only about a



mile from this town boundary and forms a natural barrier to development. For the same reasons, it is unlikely that development in Lowell will have any impact on Albany.

Eden

Eden and Lowell are joined by Route 100 a major thoroughfare through both Towns. It is however unlikely at this time that there will be any major development along that route that would conflict with either town's objectives for the future.

Eden's Town Plan was adopted in the spring of 2013 and states the following mission statement:

Statement of objectives

Based on a survey of residents in 2012 and additional community input, the Planning Commission identified five guiding principles to be used in the development of the Town Plan. These principles are:

- 1. All residents must have their property rights both respected and protected;*
- 2. The growth of Eden should occur in such a way as to enable residents to continue to live in town without undue tax burdens;*
- 3. The natural environment should be protected and conserved to ensure that the resources we have today will be available for future generations;*
- 4. A safe and healthy living environment must be maintained; and,*
- 5. Eden's scenic, small-town atmosphere should be preserved.*

There are no indications from this that the Town plans to promote any development that would conflict with the Town of Lowell.

The Town of Lowell and The Town of Eden share one major geological area which is the Asbestos Mines which span over both towns. Eden's Town Plan mentions the mines and the current outlook on it:

The community has considered the possibility of designating the Vermont Asbestos Group (VAG) site as an EPA Superfund site on the National Priorities list. The vote at Town Meeting in March 2012 in both Eden and Lowell was conclusive. Both towns voted against a Superfund site by substantial majority. With the mine now closed, any significant exposure to asbestos fibers is now well in the past. The VT Department of Health concluded that there are no increased incidences of disease related to asbestos exposure in Eden or any surrounding towns.

It is clear both Towns are on the same page about the current situation with the mines.

Irasburg

Irasburg does not currently have a town plan. Irasburg and Lowell are separated from Lowell by a ridge, and like Eden there is only one major highway, Route 58, connecting Irasburg and Lowell. Except for the land right along Route 58 most of the land along this town boundary is inaccessible. Therefore, any impact on Lowell by development in this area of Irasburg would most likely be along Route 58. There is little chance that anything would be proposed at this time that would effect the Town of Lowell.

Montgomery

The Montgomery Town plan was re-adopted in 2010. The future objectives for the town are stated as follows:

VISIONS FOR THE FUTURE OF MONTGOMERY

Growth is destined to happen. How that growth evolves is the concern of every resident of Montgomery. The following visions serve as guidelines for the future.

- *The preservation of the character of Montgomery and the protection of our natural assets will remain foremost in the Plan for the growth of our Town.*
- *Our township has two unique village areas that are assets to the Town and by encouraging historic preservation, economic development, and the adaptive reuse of existing structures, these villages can be preserved and promoted.*
- *Maintain and preserve Montgomery's six covered bridges, for they represent our community's history and an appreciation of Vermont's cultural heritage.*
- *A commitment to our children, families, land, water, and natural beauty will continue to make our town a special and unique place to the year-round residents as well as our tourists and visitors.*
- *The provision of varied recreational opportunities is vital in promoting the community's quality of life and economic development.*
- *The maintenance and preservation of mountain streams will reinvigorate natural fisheries, in doing so, recreational fishing can continue.*

- *The lawful and responsible use of firearms for hunting and recreation is recognized as contributing to the culture of the Town.*
- *Town character will be a factor in the businesses that look towards Montgomery as not only a good location for their business, but also as a place that offers a quality way of life for their employees.*
- *Encouraging environmentally sound, clean businesses, new technology, home-based businesses, and enhancement of our tourist trade will lead to a more stable tax base and help in reducing reliance on residential property taxes.*
- *Encouraging family scaled, diversified and sustainable agriculture and cultural practices will:*
- *Maintain a working landscape as an effective conservation program;*
- *Support the Town's rural character;*
- *Provide local commerce and employment opportunities;*
- *Promote traditional lifestyles and occupations; and*
- *Promote self-reliance for the individual and the community*
- *Create employment and affordable housing opportunities so that the next generation may find fulfillment in town and maintain family and community ties.*
- *Growth in Montgomery should occur at a rate which does not exceed the Town's ability to accommodate the growth and the ability to provide essential services.*
- *As a town, Montgomery recognizes that those in financial and physical hardship require greater assistance from the community to ensure their full participation. Therefore, as a community, we should work to provide affordable housing, encourage local businesses and services, and continue to support local charitable service organizations.*

The visions for Montgomery are very similar to those of the Town of Lowell and we see no reason to be concerned about any development in the Town or foresee development that would effect the Town of Lowell.

Newport Center

Newport Center's Town plan was re-adopted in 2009. Newport Center's Town Plan is written to be sensitive on the impacts that their own development will have on neighboring towns. Their plan also points out that the southern portion of their Town is essentially undeveloped. The wording of the Newport Center Town Plan, along with the fact that there are no through roads from Newport Center into Lowell, should serve to reduce or eliminate any impacts that development in Newport Center will have on Lowell.

Troy

The Troy Town Plan was adopted in 2013 and indicates that the more intense development, such as commercial, industrial, and high density residential, should occur around and between the Villages of Troy and North Troy. This, combined with the fact that vehicular access to the southern part of Troy is limited, would indicate that development in Troy would have little or no impact on Lowell.

The Troy Town Plan lists the following for future growth objectives:

OBJECTIVES & POLICIES

The development of this plan has yielded the following objectives and policies. The objectives and policies are meant to be an overall guide for future decision making and have been developed through a mixture of planning analysis and citizen input.

- *This plan and the zoning bylaws shall be updated periodically to account for the changing needs of the town and surrounding towns.*

- *Communication will be maintained amongst the Towns of Troy, Westfield, Lowell, Newport Center, and Jay. Issues such as the wastewater treatment facility, zoning regulations and adjacent zones will be discussed and coordinated.*
- *An ongoing dialogue shall be further established and maintained between the town of Troy and the Northeastern Vermont Development Association.*
- *Local citizens shall be encouraged at all times to be involved in and make decisions regarding the future of Troy and the planning process.*
- *The Town Plan Maps will remain available to the public at the Town Clerk's Office so that the following applications can occur:*
 - *The Planning Commission can utilize these maps for planning purposes.*
 - *The Zoning Administrator can utilize this inventory to assess if a planned use of a parcel of land would adversely affect the community.*
 - *The Troy Planning Commission can utilize this inventory to ascertain where they would foresee zoning changes.*
 - *A property owner can utilize these maps to assess the resources on his/her land and plan accordingly what may be the best use for the land. If the property owner is considering a development, which requires Act 250 approval, these maps can be used for an initial overview of how the project may relate to Act 250.*
 - *A Real Estate Agent can utilize this inventory to show a client the resources, which exist on a given piece of property or the proximity of the piece of property to other resources.*
- *The town shall encourage energy conservation measures. (State standards are available and can be utilized at the local level).*
- *The town shall promote Troy's outdoor recreational opportunities.*
- *The town will explore opportunities to protect the existing natural areas and special scenic areas.*
- *The town will provide zoning densities to encourage settlement in existing population centers such as North Troy Village and the Hamlet of Troy.*
- *The town will encourage commercial and residential development at the intersection of Route 101 and 242, in such a way that strip development is discouraged.*
 - *Encourage single entrances and exits to multiple enterprises or residences.*
 - *Encourage appropriate landscaping where necessary. Encourage parking behind or to the side of the building rather than between the building and the roadway.*
 - *Encourage development that is complementary to the existing residential areas.*

11. Well protection zones shall be protected against any development, which would adversely affect the water quality.

Westfield

Westfield adopted their Town Plan in 2009.

The new town plan has been written to encourage the maintenance of the open agricultural land with limited residential and small commercial development along 100 south of the Village of Westfield. The plan also states that this is an area to be monitored. They encourage residential development along Buck Hill Road which connects Route 58 in Lowell with Route 100 in Westfield. Therefore, it appears that the new Westfield Town Plan has been written with intent of reducing or eliminating impacts on Lowell caused by development in Westfield.

However, the topographical and access barriers that exist between Lowell and most of the other surrounding towns do not exist between Lowell and Westfield. This fact would seem to

indicate that development in Westfield could have more of an impact on Lowell than any of the other surrounding towns.

It is very important that the Town of Lowell and the Town of Westfield stay in communication regarding future projects and developments.

The Town of Westfield's objectives for the future are stated as follows:

Our Vision and Objectives for the Next Five Years

Many of us wish we could bring back all the farms which have contributed so much to Westfield's agricultural heritage. While that may not be possible, we can try to keep those farms that remain through continual monitoring of our policies and bylaws to ensure that farmers have the opportunity to diversify. We will encourage the productive use of our land and offer opportunities for development that keep with the rural atmosphere we all enjoy.

We want to maintain local recreation access to farm and forestland for snowmobiling, hunting, fishing, skiing, and hiking.

We are dedicated to supporting our existing businesses and industries. We will keep them by minimizing local government interference.

Over the next 5 years, we will continue working with the town of Jay to ensure the smooth operation of our local school, and we will do our best to keep the educational needs of our children as a top priority.

We will continue to monitor the expansion of the Jay Peak Resort and other new developments occurring around the mountain. These have the potential to impact the Town, creating opportunities as well as problems.

Residential growth in Westfield should proceed at a pace which allows us to retain our rural character and provide municipal services. We will maintain community spirit by welcoming newcomers, and by keeping up the neat, clean appearance of the Town.

Finally, we want to continue the spirit of cooperation we have developed with the Town of Jay and extend it to other neighboring Towns so that development in the local region can proceed in a manner which benefits us all.

NORTH EAST KINGDOM REGIONAL PLAN

The Town of Lowell Zoning Board feels that our new Town Plan is consistent with the regional planning goals. The following states some of the Goals and Strategies listed in the Northeast Kingdom Regional Development Plan.

Volume I

REGIONAL GOALS & STRATEGIES VOLUME I: REGIONAL GOALS & STRATEGIES - 1 - REGIONAL PLAN FOR THE NORTHEAST KINGDOM NORTHEASTERN VERMONT DEVELOPMENT ASSOCIATION

INTRODUCTION

The Northeastern Vermont Development Association (NVDA), the regional planning and development organization for the northeast region of Vermont, strives to assist and promote the interests of all municipalities in Caledonia, Essex, and Orleans Counties; and to support economic development initiatives that provide quality job opportunities in this region. The Association is enabled under the Vermont Municipal and Regional Planning and Development Act (24 V.S.A., 117, Section 4341). NVDA is the only combined Regional Planning Commission and Development Corporation in Vermont.

REGIONAL VISION

Vermont's rural traditions have been better preserved in the Northeast Kingdom than in other areas of the state. Respect for individual rights and a genuine neighborliness toward others are values that continue as part of the social fabric here. The physical landscape has essentially remained unchanged with compact village centers surrounded by working farms and productive forests. When one examines local town plans throughout the region, one quickly gets the sense that most people in this region prefer gradual change over rapid growth. Nevertheless, most Northeast Kingdom residents stand firmly behind development that promotes job creation and sustained economic development. The natural beauty and wholesome quality of life experienced in the Kingdom are things no longer enjoyed exclusively by the region's residents. With the Northeast Kingdom within a day's drive of more than 70 million people, the region has become a recreational playground for many out-of-area visitors. Others are seeking to permanently escape the rigors of urban life elsewhere and relocate to the region. Such outside interest in the region presents both opportunities and problems. While towns appreciate the additional revenue associated with seasonal residents and visitors, a large influx of new, year-round residents can strain local infrastructures and services. New residents sometimes seem to have unreasonable expectations, but they often bring fresh perspectives and new ideas. With long-time and new residents alike, the communities of this region are encouraged to plan for their future, so that growth is expected and welcome rather than haphazard and problematic. Over time, the cumulative effects of unplanned or uncoordinated growth can be dramatic, and may negatively affect local economies and the quality of life Northeast Kingdom residents have come to enjoy. In both regional and local planning processes, we need to retain and strengthen existing businesses while creating new economic and employment opportunities for residents from all walks of life. We must provide quality educational opportunities and skills training for all job seekers to make the region's workforce more attractive to employers. With an economy that is to a great extent linked to our natural resource base, the region and its municipalities should also embrace strategies to protect the environmental quality in the Northeast Kingdom.

The availability of quality, affordable housing is a regional goal also shared by every local community, and upgrading existing, substandard housing is a particularly urgent priority. Northeast Kingdom residents are also encouraged to work with their local, regional, and state agencies and officials to revitalize downtowns, village centers, and cultural institutions to preserve our cherished way of life. Local communities and state agencies must continue to upgrade public infrastructure in a coordinated manner, in order to protect the health, safety, and welfare of local residents. As a region, we must strive to provide a reliable and safe transportation system with improved access to destinations within and outside the region for a greater number of people. Achieving these broad goals will ensure that the residents of the Northeast Kingdom will prosper and live satisfying lives in communities of their own making. VOLUME I: REGIONAL GOALS & STRATEGIES - 3 - REGIONAL PLAN FOR THE NORTHEAST KINGDOM NORTHEASTERN VERMONT DEVELOPMENT ASSOCIATION

CHAPTER ONE Land Use

FORESTLAND GOALS

Sustainable forestry should remain an economically viable tool to preserve woodlands, open space for recreation, and local character.

Mixed-use forests should allow for expanded economic benefits to forest owners while encouraging sound ecological practices and recreational access to the public.

Value-added processing opportunities for wood resources in the region should increase.

STRATEGIES

Provide management, financial, and technical assistance to local forest product industries, including wood product manufacturers, sawmills, paper mills, and wood-powered electrical generators (cogeneration).

Maintain enough forest land to support wood-related industries, retain the region's natural beauty, protect fragile areas, encourage wildlife, promote recreational usage, and maintain a healthy, sustainable forest based economy.

Support the development and marketing of distinctive wood products identifiable with Vermont and/or the Northeast Kingdom.

Support owners of forestland who implement sustainable forestry practices to market their wood and wood products.

Expand usage of existing rail infrastructure for shipping and interface with trucking. Explore the creation of forest-related industrial zones (i.e. rail sidings for sawmills)

AGRICULTURAL LAND USE GOALS

Farming and agriculture should remain an important and viable sector of the regional economy.

Contiguous tracts of prime agricultural soils should be preserved.

STRATEGIES

Provide support to farmers interested in diversification and/or product development. Assist with grants and low-interest loans for value-adding businesses and diversification.

Identify funding sources for and market existing and new food ventures in the region.

Support education efforts that teach sustainable agricultural practices.

FUTURE LAND USE & DEVELOPMENT GOALS

Traditional development patterns should be maintained and new development should be encouraged to follow these patterns.

New development should be compatible with existing land uses, and agree with local plans.

VOLUME I: REGIONAL GOALS & STRATEGIES - 4 - REGIONAL PLAN FOR THE NORTHEAST KINGDOM
NORTHEASTERN VERMONT DEVELOPMENT ASSOCIATION

Historic structures, community facilities, and other buildings should be preserved and adapted for re-use.

Brownfield sites should be reclaimed.

Significant development proposals should consider the impact on adjacent regions.

STRATEGIES RURAL AREAS

Support local conservation efforts.

Encourage community open space plans and recreation infrastructure.

RECREATION LAND USE GOALS

Sufficient open space should be available for current and future outdoor recreational pursuits.

A variety of year-round and seasonal, indoor and outdoor recreation opportunities should be available for residents and visitors.

Public access to water bodies should be protected.

STRATEGIES

Assist towns to plan for future recreation needs.

Assist with financing to develop additional facilities such as sports fields, playgrounds, trail systems, ice rinks, skateboard parks, and recreation/bike paths.

Identify and protect public access to water bodies.

Special attention should be given to providing recreation activities for youths and seniors.

Support local and regional recreation events (e.g. fairs, festivals, etc.).

Improve public information about existing recreational opportunities.