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## **2.0 DEMOGRAPHIC PATTERNS AND TRENDS IN THE WMNF REGION**

### **2.1 INTRODUCTION**

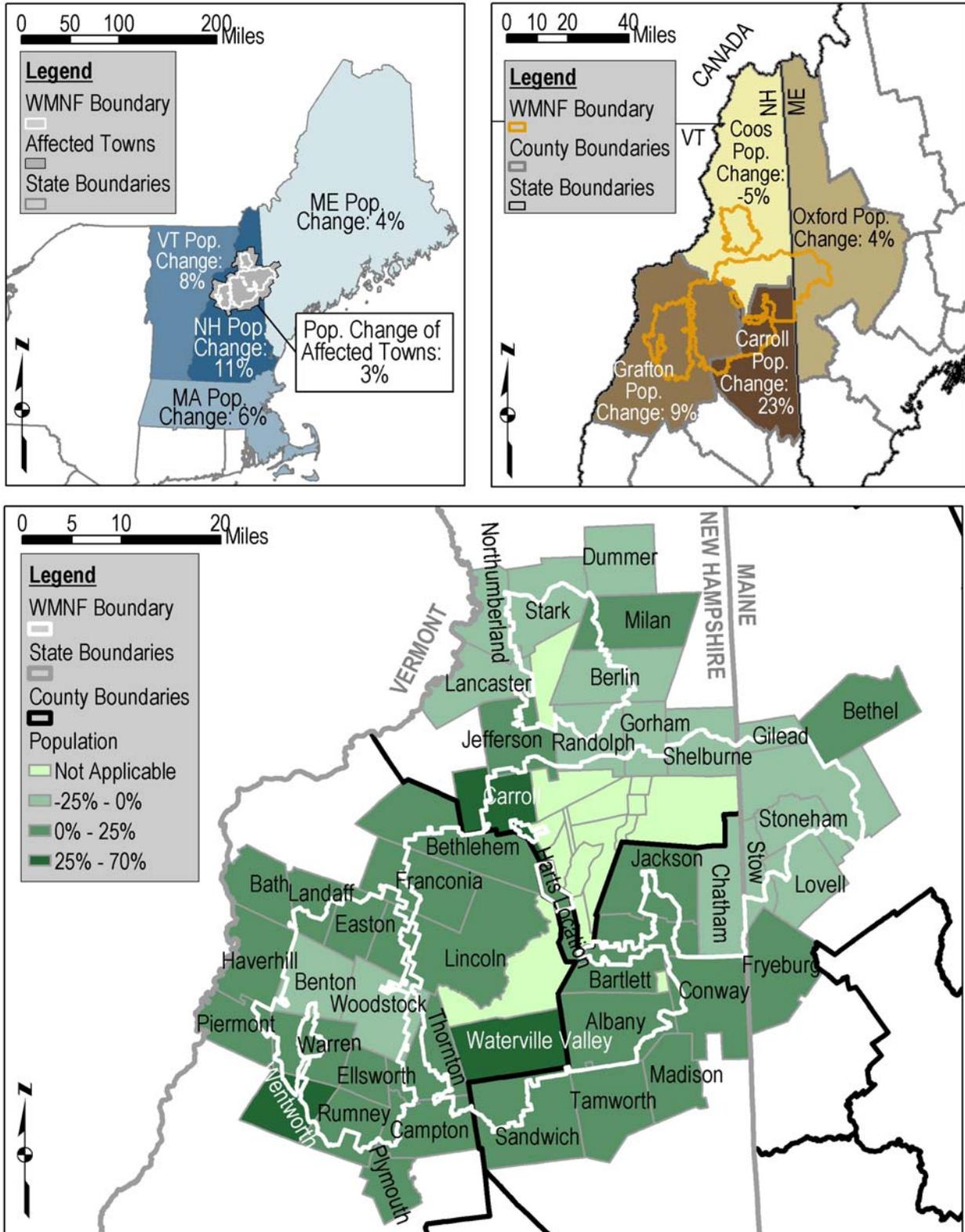
The socio-economic assessment of the Forest Region begins with the people of the region, as portrayed in demographic and social statistics. The demographic and social analysis in this assessment focuses first on the Forest and its Directly Affected Towns, followed by the Four Counties of Coos, Carroll and Grafton Counties in New Hampshire and Oxford County in Maine. For comparative purposes and to understand broader New England regional trends, summary level data are used for New Hampshire and Maine and in some cases for Massachusetts and Vermont.

### **2.2 POPULATION**

The population of the Affected Towns was 76,557 in 2000. The populations of individual MCDs vary from 0 to over 10,000. The three largest towns are Berlin, Conway and Plymouth. The unincorporated areas are almost entirely included within the Forest. They generally have populations too small to draw any meaningful conclusions about trends so they are often omitted from the town level demographic analysis that follows. They are included in the overall trends of the Affected Towns and the Four Counties of the Forest Region. The population size of the assessment areas is shown on Figure 2-1. The 53 Affected Towns in New Hampshire and the 7 Affected Towns in Maine comprise 5.6% and 0.6% of the total population in each state, respectively. However, the Affected Towns represent over 35% of the population of the Four Counties.

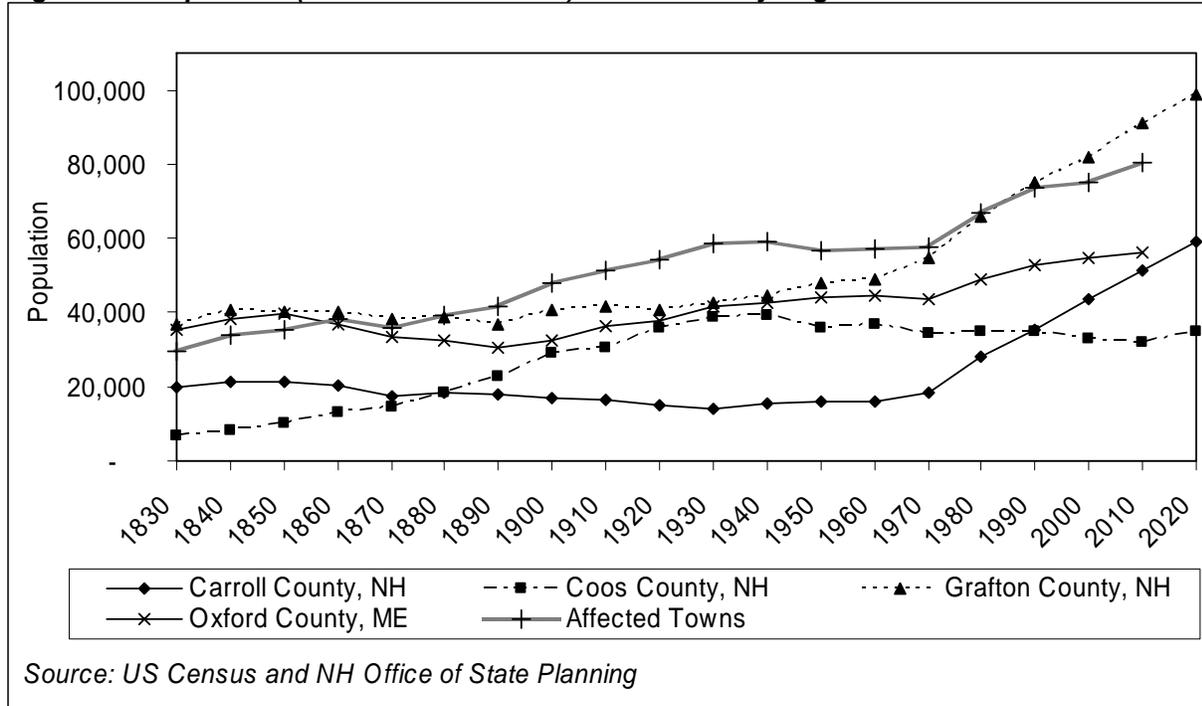


Figure 2-2: Total Population Change, 1990 – 2000

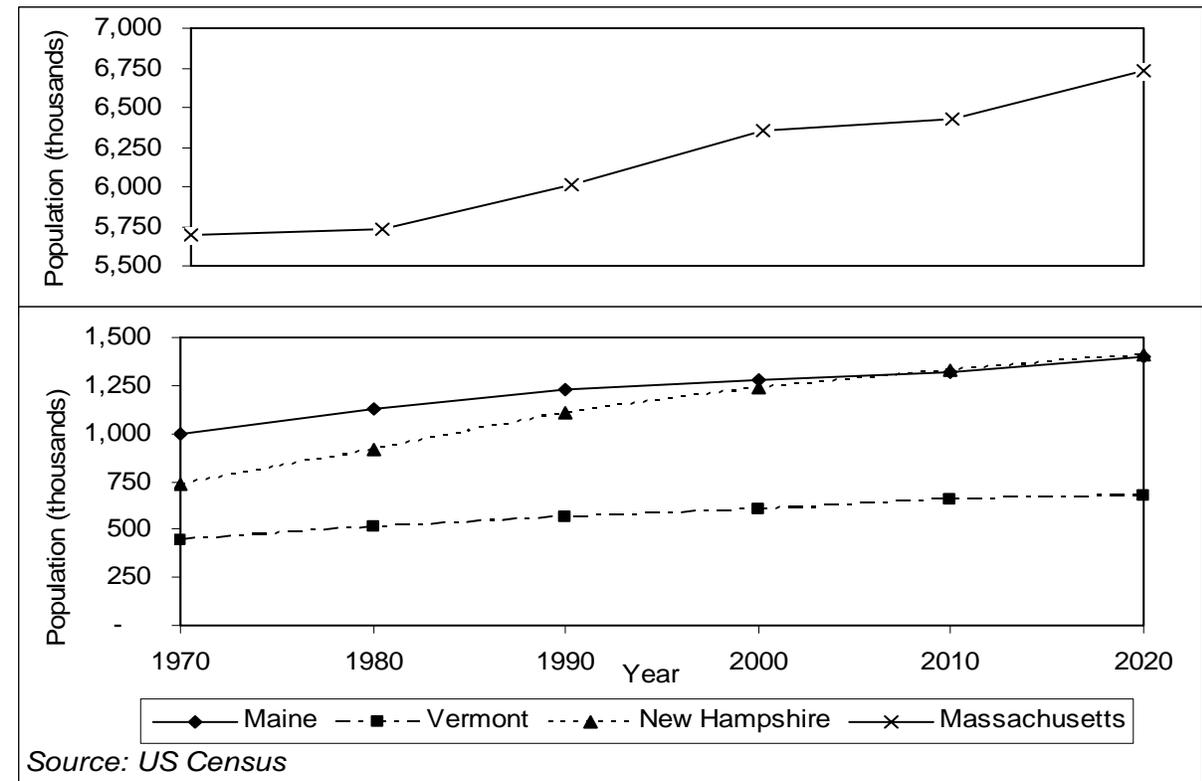


Data Sources: U.S. Census Bureau; U.S. Forest Service, White Mountain National Forest

**Figure 2-3: Population (actual and estimated) in Four County Region from 1830 – 2020<sup>1</sup>**



**Figure 2-4: Population (actual and estimated) in ME, VT, NH & MA from 1970 – 2020**



<sup>1</sup> 2020 data value not available for Maine and thus the Affected Towns within Maine are also missing this value.

## 2.3 POPULATION CHANGE AND MIGRATION

### 2.3.1 Population Change

The population of the Affected Towns and the Forest Region as a whole has grown for more than 100 years. Figure 2-2 shows that there have been some notable changes as economic conditions and transportation access has altered the demographic landscape. There are a set of MCDs shaded light green and marked “Not Applicable\*” in the Legend of Figure 2-2. All MCDs corresponding to this category, except Pinkham's, had no population in 1990. Pinkham's experienced an absolute decline of 11 people, from 1990 to 2000. Hale's and Bean's Purchase experienced an absolute growth of 58 and 4 people, respectively, by 2000. The trends in population for the Four Counties are shown in Figure 2-3.

The population of Carroll County, which declined steadily with the loss of agricultural employment since the opening of the West in the middle of the 19<sup>th</sup> century, rebounded in the 1960s and has since grown rapidly, spurred by economic development, migration to the southern part of New Hampshire, and relatively better proximity to Boston. In the last 10 years, Carroll has grown by 23%, which is more than double the average growth rate in New Hampshire.

Grafton County, having hardly grown in population from the mid 19<sup>th</sup> century until World War II, has taken off as the result of sustained economic development in the Upper Connecticut River Valley along the corridors of Interstates 91 and 89. Grafton Counties 10 year growth rate of 9% is almost as high as the state average of 11%.

Coos County, which grew steadily until World War II, has lost population slowly in most years since that time. In the last ten years it has lost 5% of its population, making it the only county in New Hampshire to lose population during the period. Coos has not benefited from economic development or interstate access to the same degree as Grafton and Carroll Counties.

Population growth in Oxford County in Maine did not increase much until the 1970s after which it grew at a slower pace than Carroll and Grafton Counties. In years leading up to 2000, the growth rate was 4%, which is average for all of Maine. The slower growth of Oxford County is reflective of its economic character and its distance from economic centers.

The population growth rate of the Affected Towns has followed the general trend for the Four County Forest Region of which they are a part. On average the growth rate for the Affected Towns has followed the upward trend of Carroll and Grafton Counties, but in the most recent ten years growth has slowed to 3%, which is below the New Hampshire and Maine averages. The map in Figure 2-2 shows the considerable variation within the towns. The majority of the towns within Grafton and Carroll have grown in the last ten years while the majority of towns in Coos and Oxford have not. There is a strong divide north and south of the Notches (Franconia, Crawford, and Pinkham) with towns to the north in Coos County and to the northeast in Oxford having negative or slow growth. There are a few towns whose growth exceeded 25% in the last census decade: Waterville Valley (associated with ski area development), Wentworth and Carroll.

Projections for future growth, shown on Figure 2-3, are of course less certain. The projection from the New Hampshire Department of Resources and Economic Development and the Maine USM Center for Business and Economic Research are largely based on models using existing trends. These projections indicate that Carroll and Grafton Counties will continue to grow relatively rapidly while Oxford continues its slow growth and Coos continues to lose population. These projected changes have important implications for the Forest Region and the Forest as these counties play an important role in the Forest-related economy and as they are an important source of Forest visitors. This projected

growth is an extension of existing trends rather a change in direction so its implications for Forest planning are incremental.

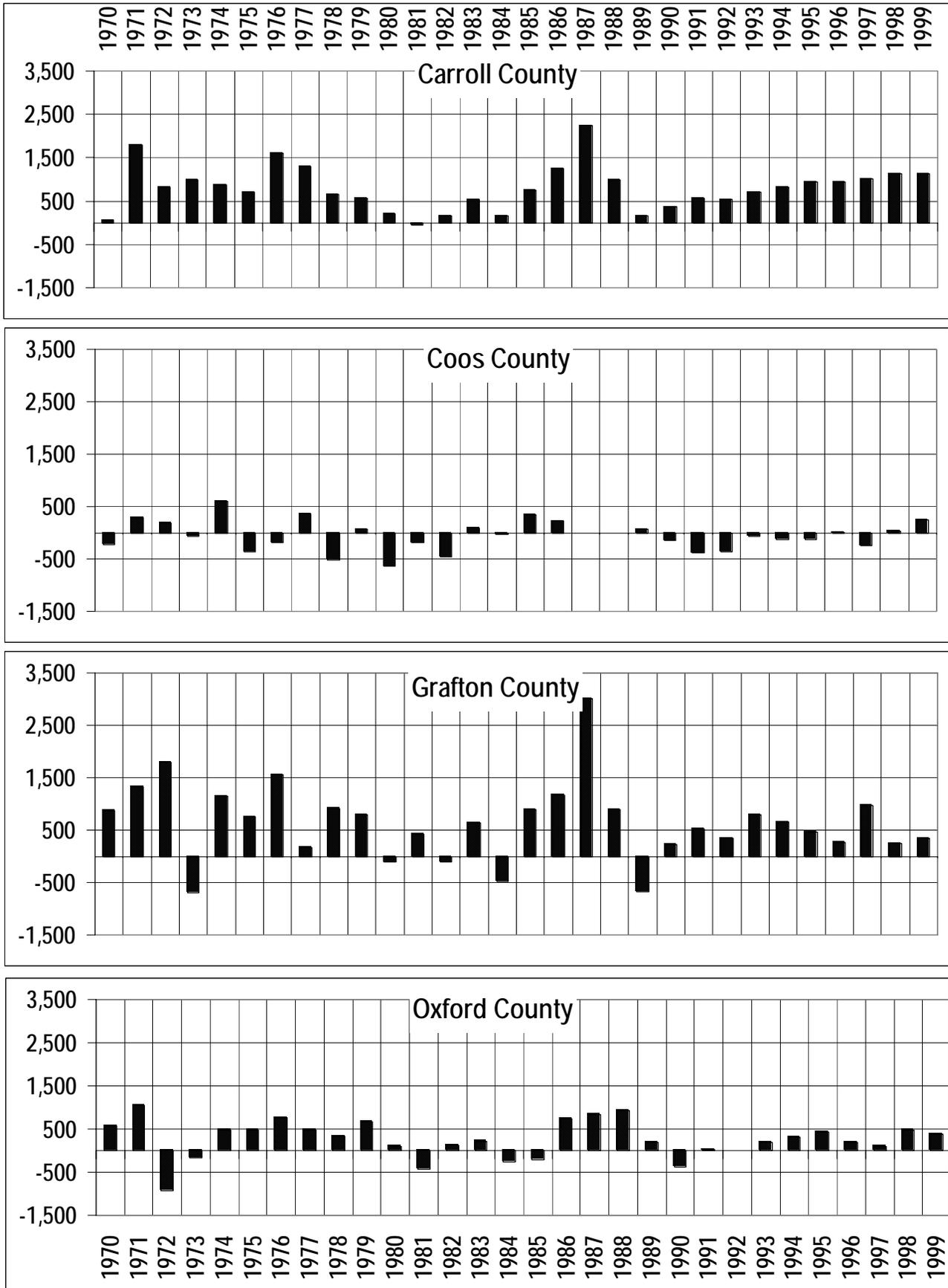
### **2.3.2 Migration**

Net migration in counties is an important indicator of social and economic conditions. People migrate to counties with strong economies and job opportunities. Figure 2-5 shows net migration for the Four Counties<sup>1</sup>. The two faster growing counties of Carroll and Grafton have a steady history of net in migration over a thirty year period. Carroll had no year in which it lost population during the period. On the other hand, Coos County has lost population in about half the years over the same period. Oxford County has gained population in most years but its population has not grown as strongly as Grafton or Carroll. Even within the two strongly growing counties, there is evidence of a cyclic pattern with low or negative net migration for the Four Counties at the beginning of the 80s and 90s.

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<sup>1</sup> Data are not available for net migration to allow a comparison at the town level or affected town level.

Figure 2-5: Net Migration from 1970 – 1999 in Number of Individuals (by County)



### **2.3.3 Population Densities**

The Affected Towns and the Forest Region are part of a rural area with relatively low population densities. The population density of the region is shown in Figure 2-6. Within the area there are notable differences between the almost uninhabited and unincorporated areas at the center of the White Mountain Range and the more populous commercial and industrial towns in the Forest Region. Conway, Berlin and Plymouth all have densities above 120 people per square mile. The overall density of the Affected Towns is 29 people per square mile compared with 136 people per square mile in New Hampshire and 40 per square mile in Maine. The much higher population densities of Grafton and Carroll counties in the southern part of the region reflect the north-south population gradient that characterizes New Hampshire.

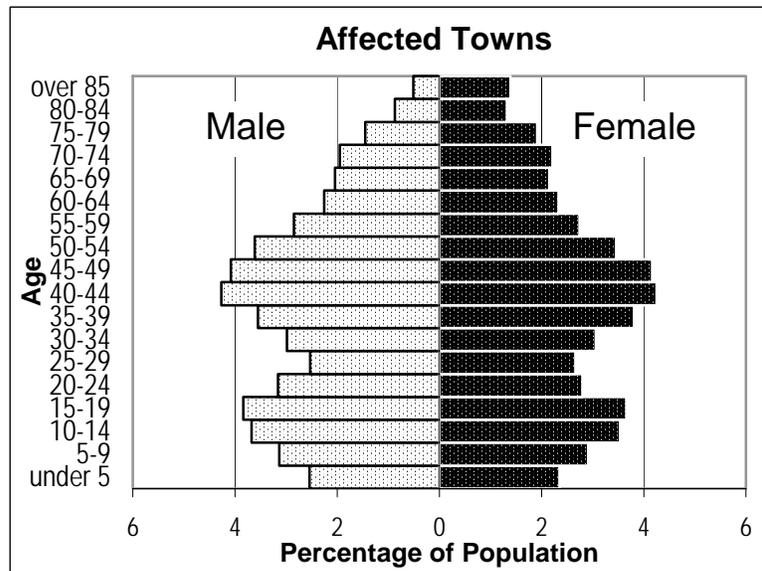
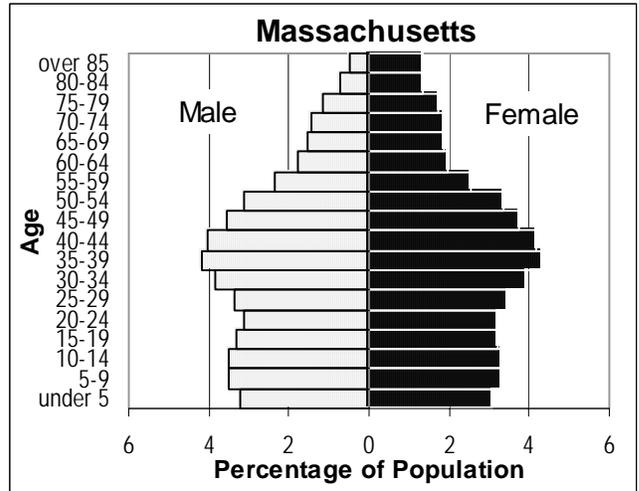
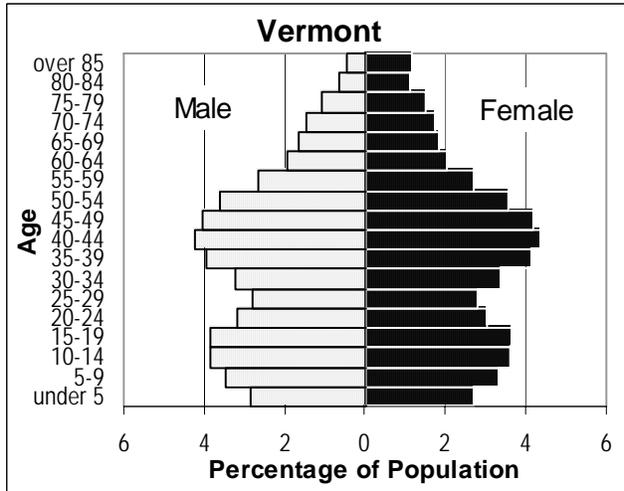
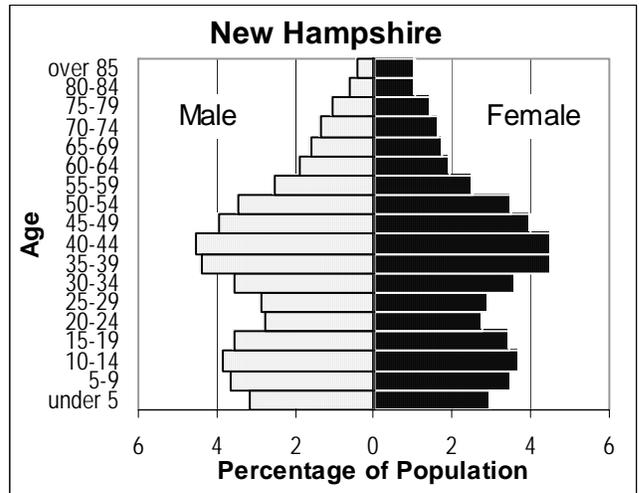
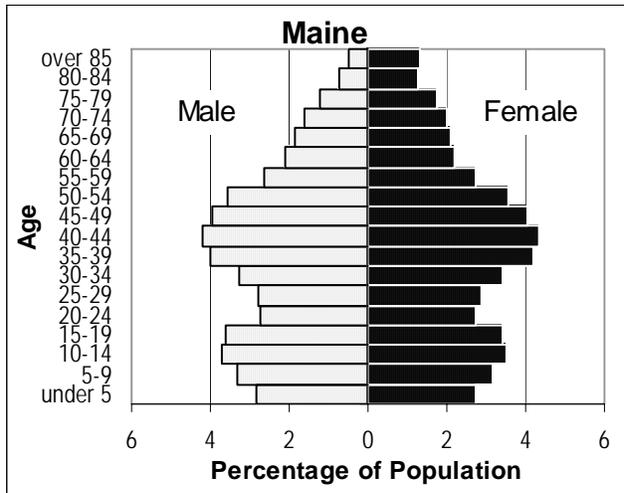
## **2.4 DEMOGRAPHIC CHARACTERISTICS**

### **2.4.1 Age and Gender**

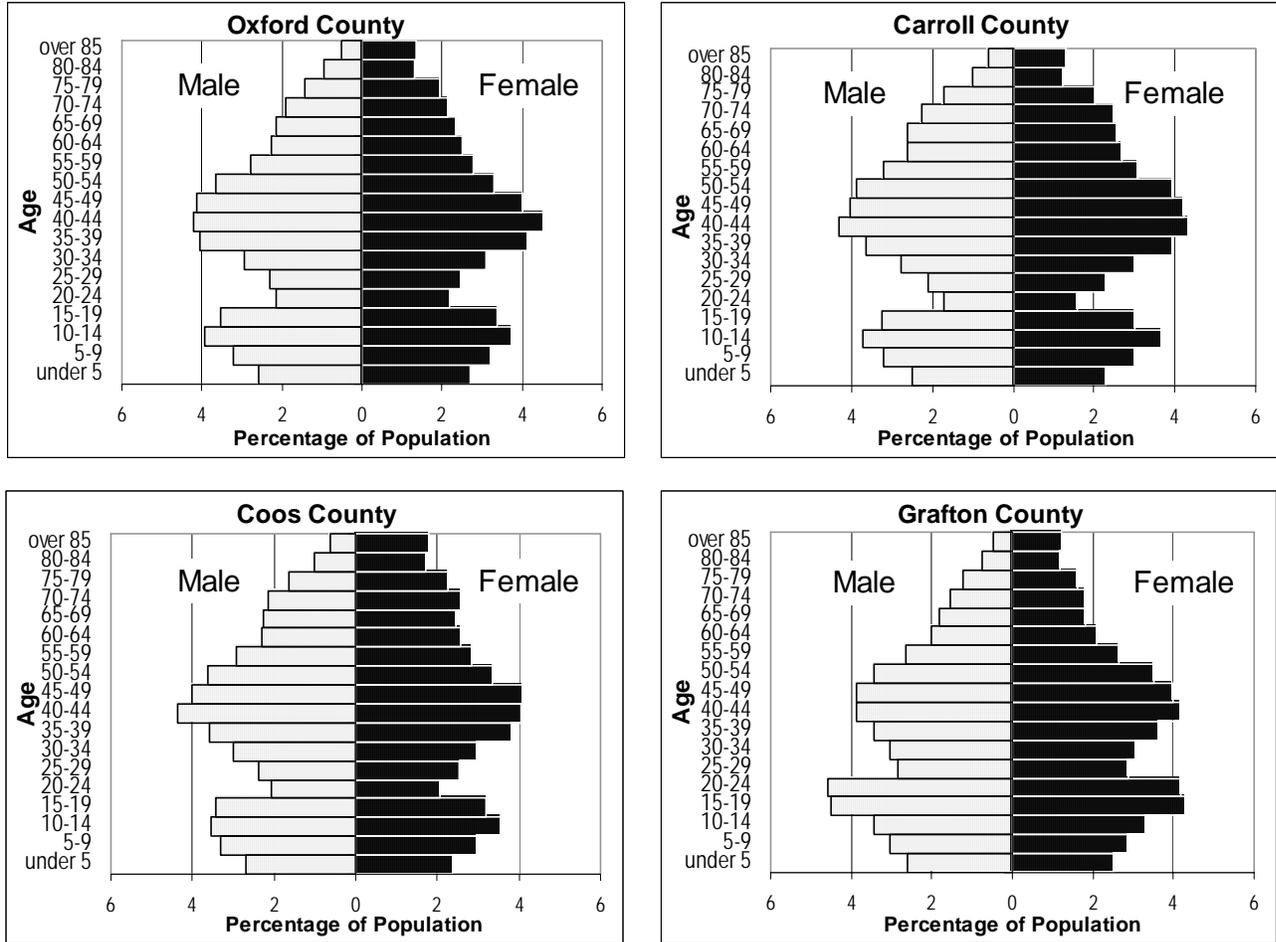
The age and gender distribution pyramid charts in Figures 2-7 and 2-8 show the age and gender characteristics of the Affected Towns, the Four Counties, and the four states of New Hampshire, Maine, Massachusetts and Vermont. The charts are striking in their similarity, reflecting the common characteristics of the communities of this demographically homogenous region. The characteristic pattern of the baby boom generation, now in their forties and fifties mirrored, by the smaller shadow boom of their children in their teens and early twenties, is clearly evident in the Forest Region and the Affected Towns. Massachusetts, with its more ethnically diverse population and greater immigration from abroad, is lacking a clear shadow boom. The slightly higher percentage of women in all age classes over 50 is also evident. For the Forest Region and the Forest there are important implications for the period when the baby boom generation begins to retire in the next ten years. This shift will likely affect the demand for recreation, housing, and social services.



Figure 2-7: 2000 Population Pyramids for Maine, NH, VT, MA and the Affected Towns



**Figure 2-8: 2000 Population Pyramids for the Four Counties**



**2.4.2 Population Over 65**

The percentage of the population over 65 is a useful measure of the social character of a community (Figure 2-9). Twenty of the Affected Towns have more than 16% of their populations over the age of 65. Twelve percent of New Hampshire’s population is over 65, as are 13% of Grafton County’s and 19% of Coos County’s. The older population of Coos County and many of the Affected Towns indicates the potential for added demand for social services as the baby boom retires. Coos County especially is likely to experience continued economic disadvantages resulting from this age distribution.

**2.4.3 Racial and Ethnic Composition**

Data for racial and ethnic composition are shown in Table 2-1 below. The Four Counties of the Forest Region are all overwhelmingly comprised of a white population. Minority populations make up less than 2% in Carroll, Coos, and Oxford Counties. Grafton is the lone exception with a minority population of more than 4%, due in part to Dartmouth College and its teaching hospital, which attracts a student and faculty population more like the rest of the country. It also has many international students and staff.

**Table 2-1: Racial / Ethnic Composition in the Four Counties in 2000 in Percent (Actual)**

Name	White	Black	American Indian, Alaskan, or Aluet	Asian	Pacific Islander	Two Races	Other	Hispanic
Carroll County, NH	98.2% (42,890)	0.2% (73)	0.3% (122)	0.4% (167)	0% (4)	0.8% (335)	0.2% (75)	0.5% (209)
Coos County, NH	98.1% (32,466)	0.1% (40)	0.3% (93)	0.4% (123)	0% (5)	1% (331)	0.2% (53)	0.6% (201)
Grafton County, NH	95.8% (78,276)	0.5% (435)	0.3% (255)	1.7% (1,414)	0% (22)	1.3% (1,026)	0.4% (315)	1.1% (914)
Oxford County, ME	98.3% (53,797)	0.2% (95)	0.3% (151)	0.4% (201)	0% (12)	0.8% (440)	0.1% (59)	0.5% (292)

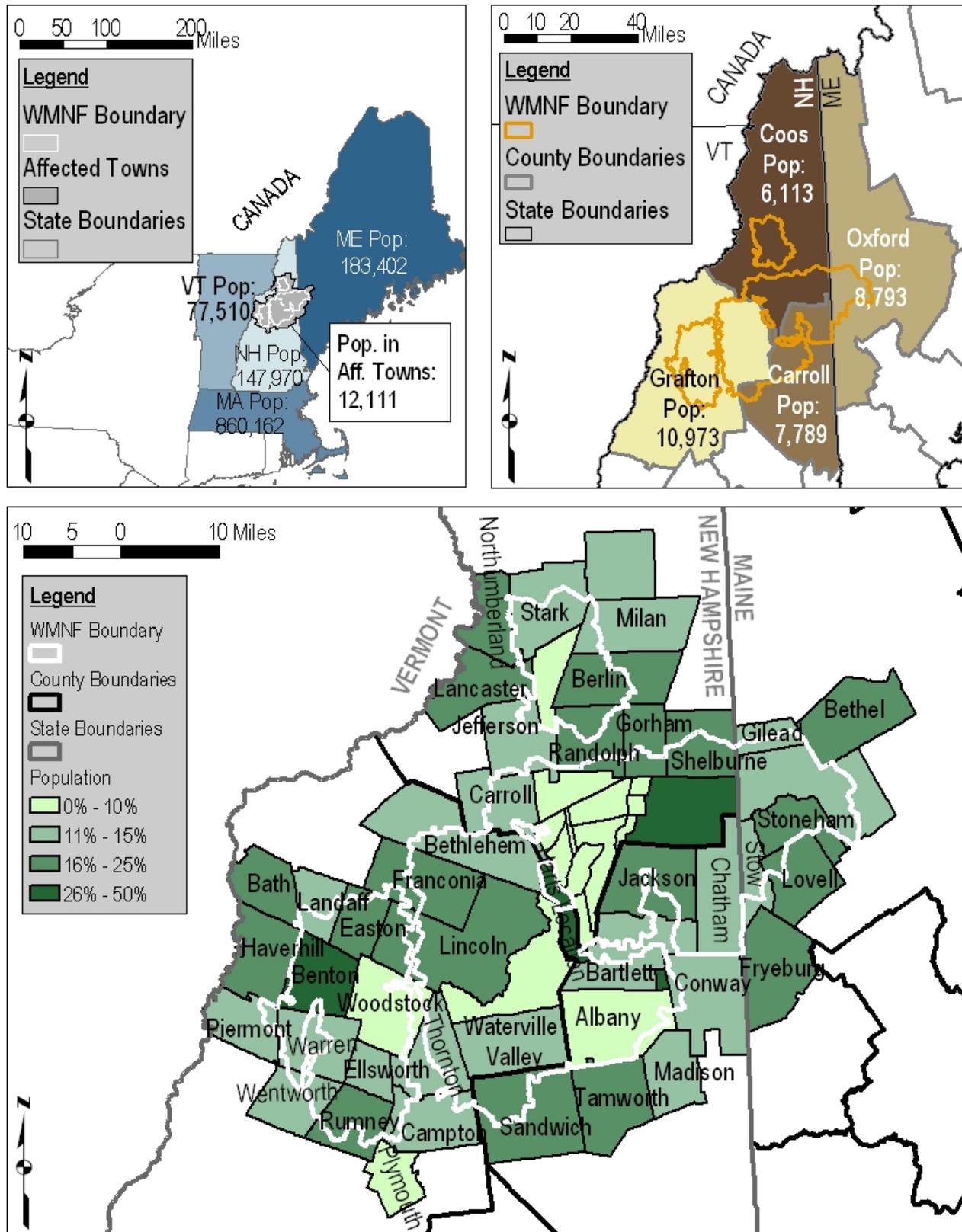
Source: US Census

## 2.5 EDUCATIONAL ACHIEVEMENT

Educational levels, as measured by high school diplomas and college degrees, are shown in Figures 2-10 and 2-11. The Affected Towns as a whole, with 62% of the population having high school diplomas, are above the average for New Hampshire, Vermont and Massachusetts, and Grafton County. The larger towns of Berlin and Conway, Gorham and several towns in Coos County have more than 66% with high school diplomas. Coos County as a whole has 66% with high school diplomas.

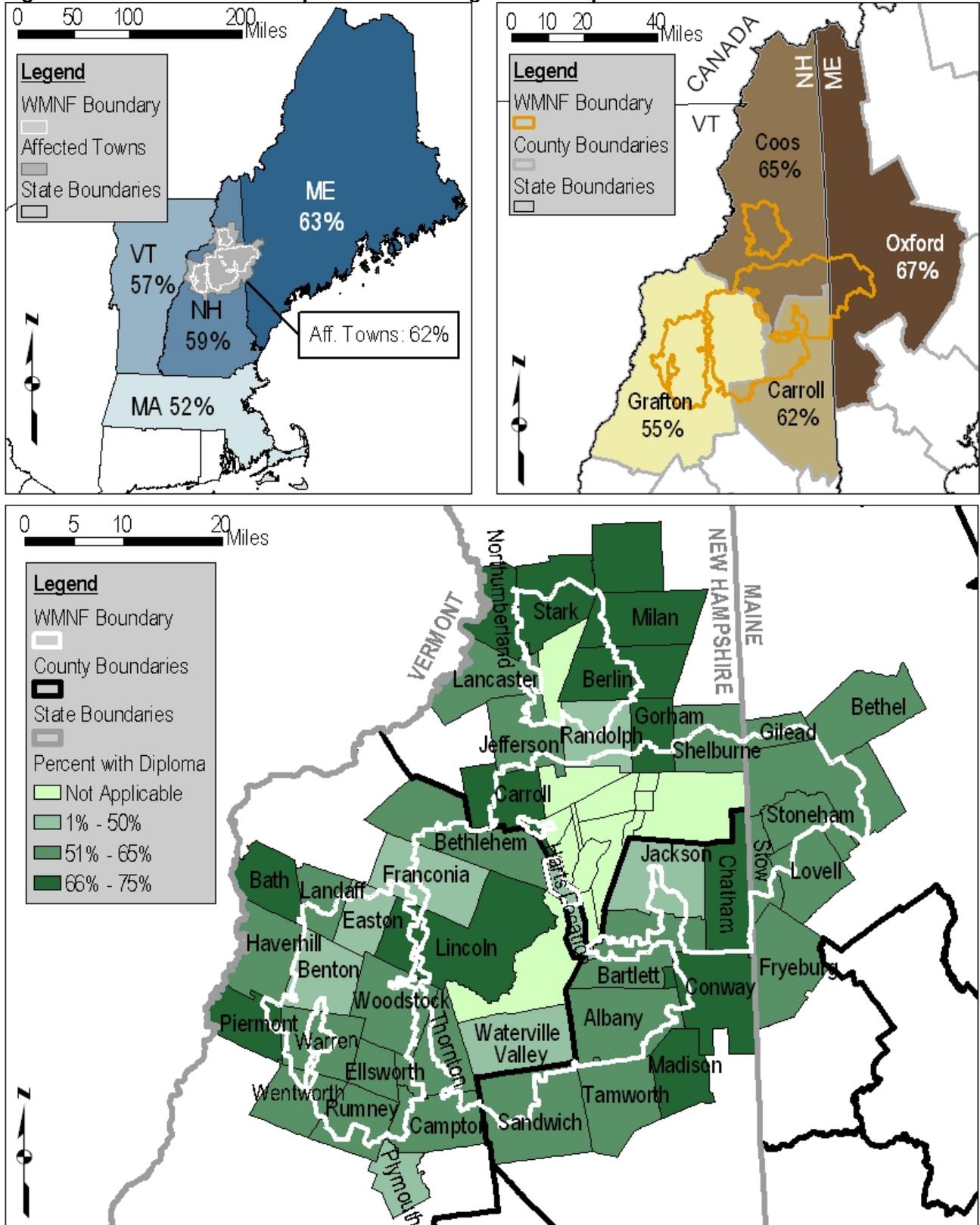
In the case of college degrees shown in Figure 2-11, the situation is quite different. The Affected Towns have an average of 22% with college degrees, which is behind all four states as well as Grafton and Carroll Counties. Coos and Oxford Counties, with 12 % and 16% college graduates, respectively, fall below their respective state averages. To some extent these patterns can be explained by age and migration patterns as well as income. Within the Affected Towns, there are a few towns with a much higher percentage that have college degrees. These towns include Sandwich, Waterville Valley, Jackson, Franconia, Easton, Randolph and Plymouth. Many of these cases may be explained by in migration of people with degrees in connection with seasonal homes, retirement or, in the case of Plymouth, with the presence of Plymouth State University.

Figure 2-9: 2000 Population Over 65



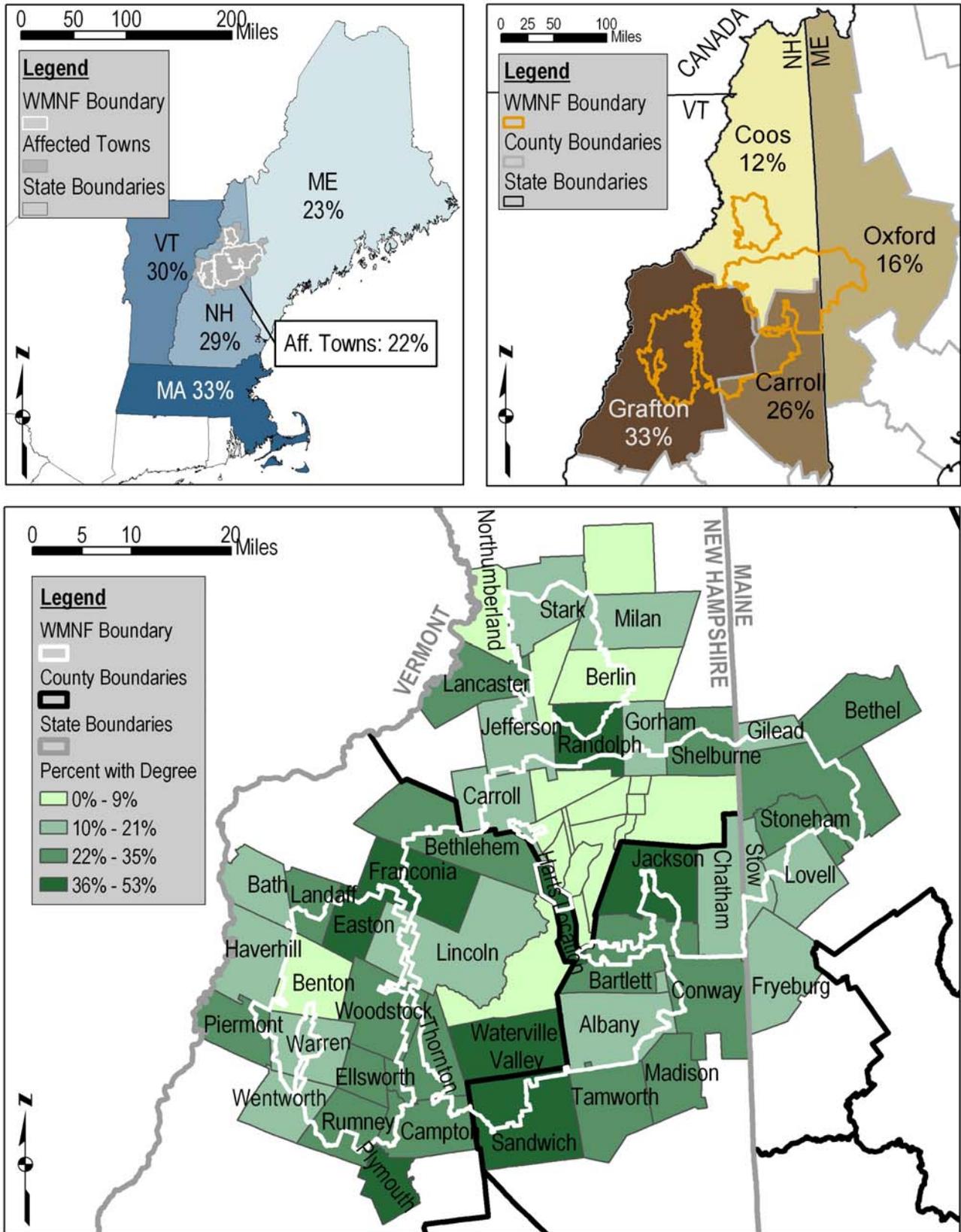
Data Sources: U.S. Census Bureau; U.S. Forest Service, White Mountain National Forest

Figure 2-10: Percent of 2000 Population with a High School Diploma



Data Sources: U.S. Census Bureau; U.S. Forest Service, White Mountain National Forest

Figure 2-11: Percent of 2000 Population with a College Degree



Data Sources: U.S. Census Bureau; U.S. Forest Service, White Mountain National Forest

## 2.6 INCOME, POVERTY, AND UNEMPLOYMENT

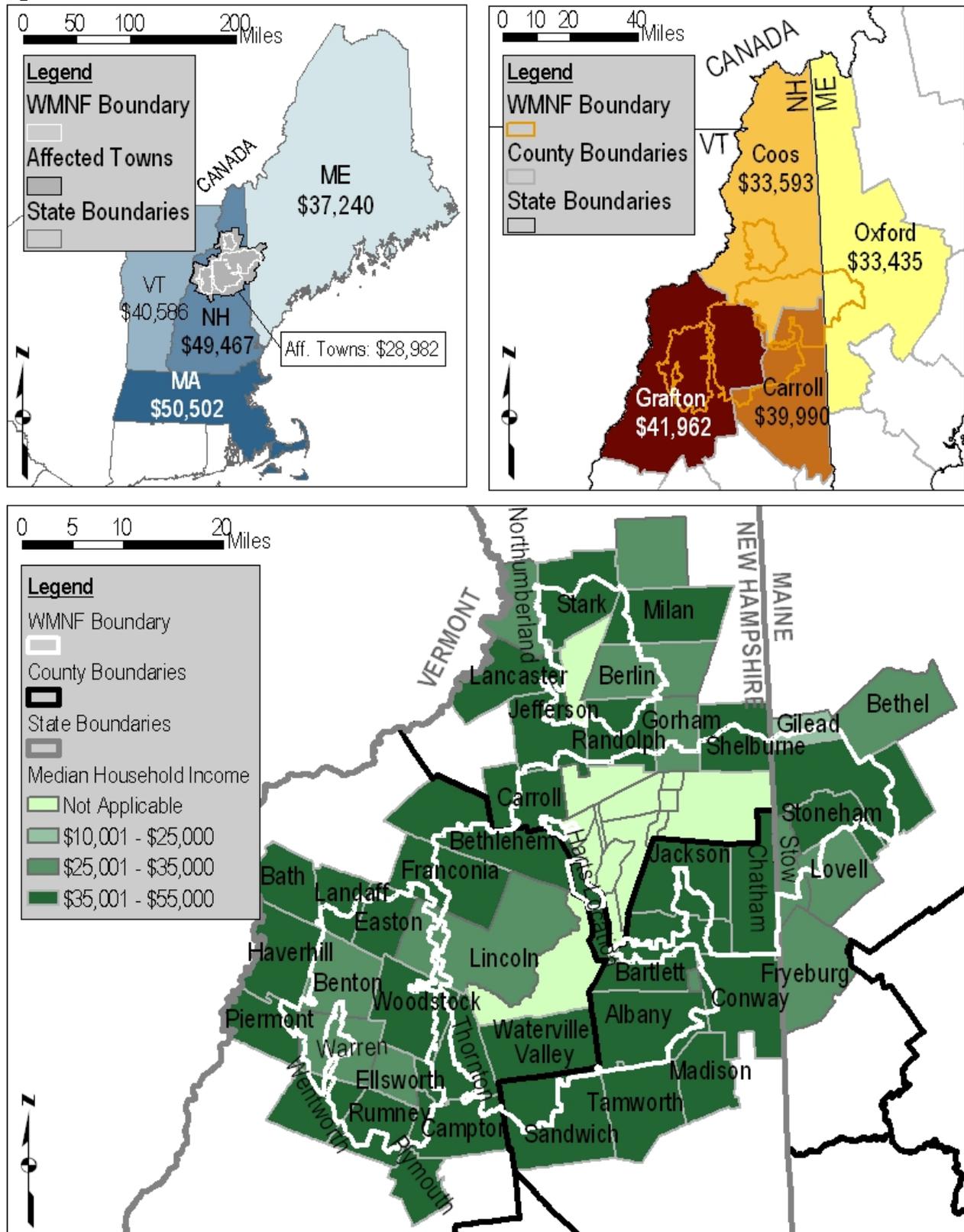
The median annual household income is shown in Figure 2-12. The Affected Towns have median annual household incomes of \$28,982, which is below the levels of any of the Four Counties and any of the four states. Within the Affected Towns, the larger towns of Berlin and Gorham have low median incomes; Coos County as a whole has a median income of \$33,593 and adjoining Oxford County in Maine has a median income of \$33,435, which is below the Maine median income. The Berlin and Gorham Mills complex, which is the largest employer in Coos County, has experienced problems in the past which have resulted in layoffs and reduced income for the county. Under new ownership these mills are now resuming production and employment.

The percentage of the population below the federal poverty line (Figure 2-13) is related to mean income although it provides a better measure of the level of economic distress within a community. The percentage below the poverty line in the Affected Towns is 10%, which is close to the statewide average in Maine, Vermont, and Massachusetts, but well above the New Hampshire average of 6.5%. Coos County at 10% and Oxford at 12% are in contrast to Carroll and Grafton Counties with averages of 8% and 9% below the poverty line. The poverty line statistic again reflects the north-south gradient in economic well-being that characterizes New Hampshire. Among the Affected Towns, poverty is more prevalent in some of the larger towns such as the mill towns of Berlin and Northumberland, as well as Plymouth, which have below poverty line percentages over 16%. Plymouth is a university town which affects these statistics. Albany and Chatham in New Hampshire and South Oxford and Stoneham in Maine also have below poverty line percentages above 16%.

Unemployment statistics for the Forest Region (Figure 2-14) are a useful comparative indicator of the economic and social conditions. The statistics quoted here are from the 2000 census data and reflect the condition in April 2000. Since then a recession has increased unemployment throughout the region and the country. However, these statistics remain valuable as an indicator of the relative condition of towns and counties. The unemployment rate in the Affected Towns was 3.3%. This is similar to Maine at 3.5%, but above New Hampshire, Vermont and Massachusetts. Coos County at 4.7% and Oxford County at 5.5% again stand out as having much higher unemployment rates than Grafton at 2.1% and Carroll at 2.8%. Grafton is strongly affected economically by the very low unemployment rates that have long prevailed in the Upper Connecticut River Valley area, centered on Hanover and Lebanon with their large and growing education and health service employment sectors. Carroll has benefited from the strong growth in services, recreation and second home development, and from its proximity to the prosperous manufacturing sector to the south.

Unemployment figures increased throughout New England in 2001 and 2002. In New Hampshire, the unemployment rate climbed from 2.8% in 2000 to 3.5% in 2001 and 4.7% in 2002 and remained near those levels in the first part of 2003. Figures in Maine have followed this pattern (Federal Reserve Bank of Boston, 2003). In the Affected Towns a similar pattern has occurred. The reopening of the closed pulp mill in Berlin in April has lifted employment locally in 2003.

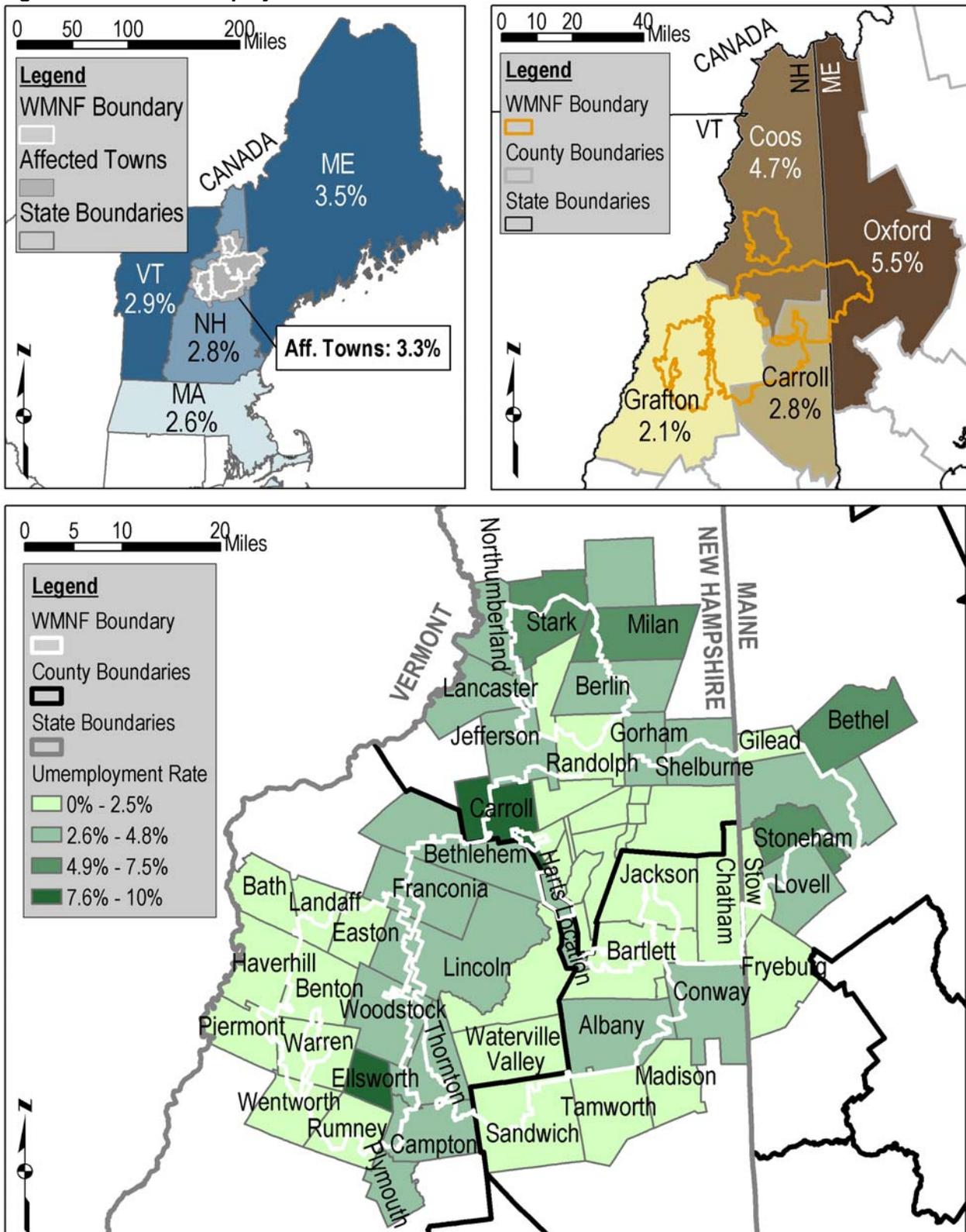
Figure 2-12: 2000 Median Household Incomes



Data Sources: U.S. Census Bureau; U.S. Forest Service, White Mountain National Forest



Figure 2-14: 2000 Unemployment Rate



Data Sources: U.S. Census Bureau; U.S. Forest Service, White Mountain National Forest

## **2.7 ECONOMICALLY DEPRESSED AREAS**

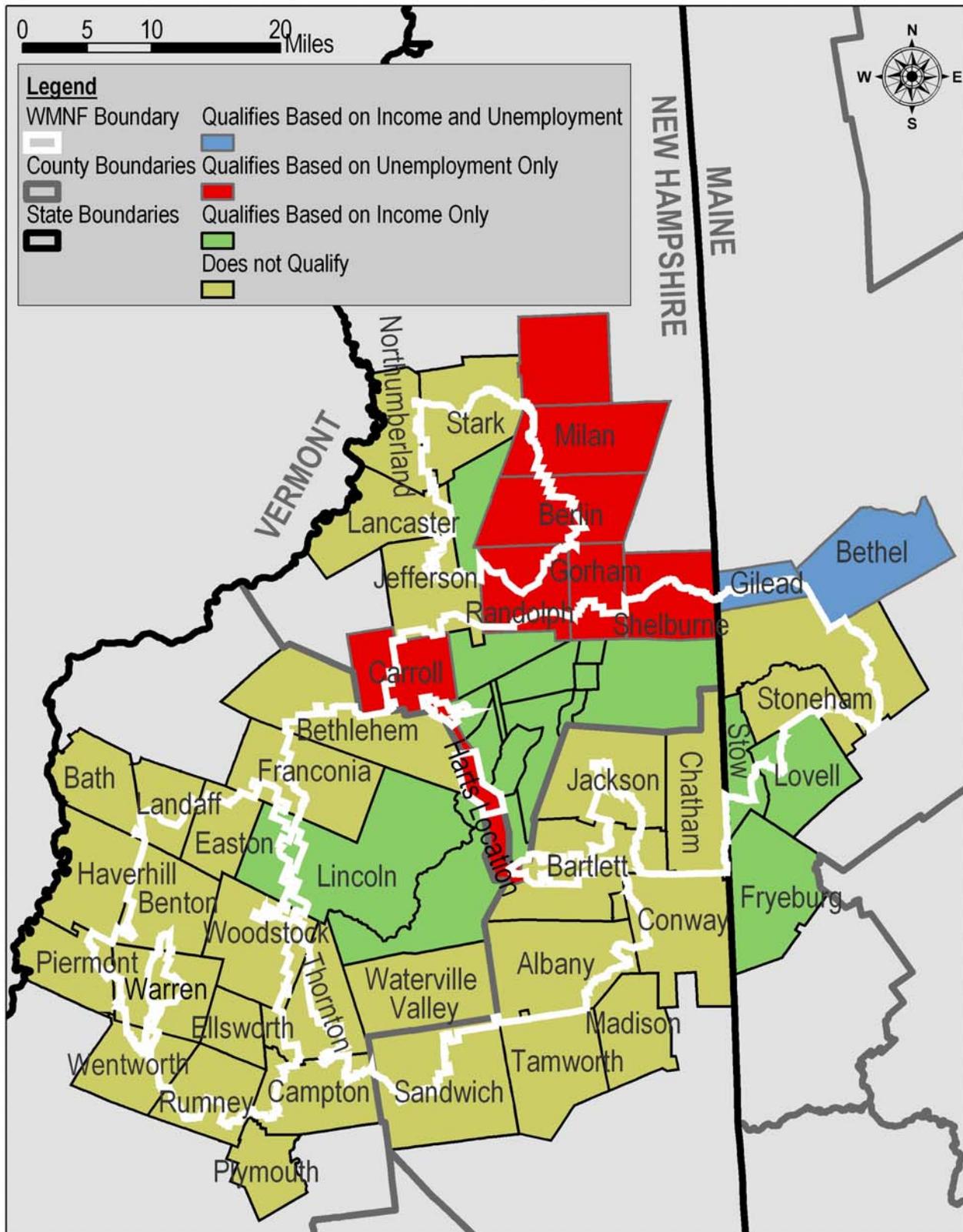
Parts of the Forest Region which have a history of being economically depressed are classified as such and are designated as Historically Underutilized Business Zones (HUB Zones) which makes them eligible for a variety of government loan and assistance programs to stimulate economic development. The New Hampshire Office of State Planning defines an economically depressed county or municipality by a formula, which includes unemployment, population growth and taxable valuation. There are 16 Towns plus several unincorporated MCDs within the Affected Towns that are classifiable as HUB zones. These are shown in Figure 2-15.

## **2.8 HOUSING**

### **2.8.1 Housing Growth**

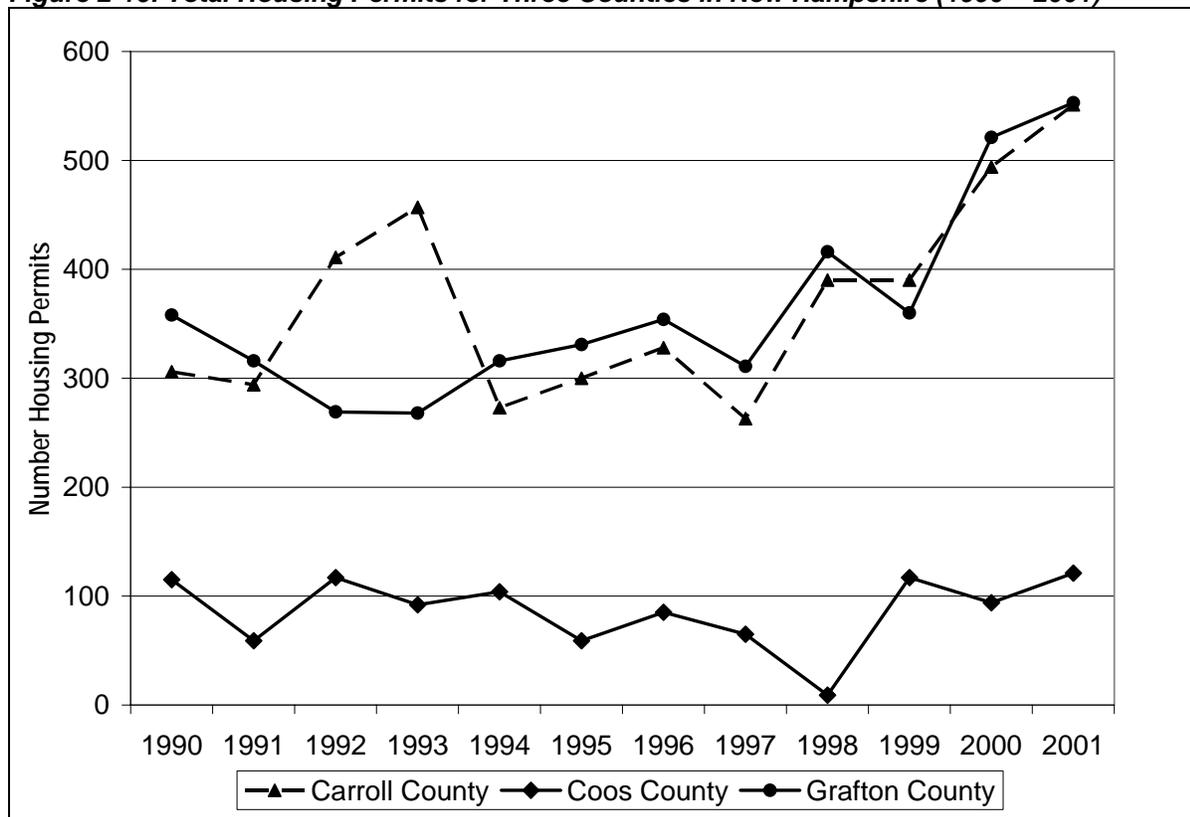
Growth in housing, including second and seasonal homes, has been an important driving force in the regional economy. Although housing growth has ups and downs related to the underlying economy and mortgage interest rates, the overall trends for Grafton and Carroll Counties have been upward in the last ten years, especially in the later part of the 90s. Total housing permits shown in Figure 2-16 shows Carroll and Grafton Counties continuing to grow while Coos County remains static at about 100 permits a year. There are not comparable data for housing permits for Oxford County but other evidence such as in-migration rates indicates that the situation is intermediate between that of Coos on the one hand and that of Grafton and Carroll on the other.

Figure 2-15: Map of Historically Underutilized Business (HUB) Zones



Data Sources: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Forest Service

**Figure 2-16: Total Housing Permits for Three Counties in New Hampshire (1990 – 2001)**



**2.8.2 Median Value**

The values of homes in the Affected Towns and the Forest Region range widely. The maps in Figure 2-17 show median home values for these areas. In the Affected Towns, the average of median values for homes is \$85,000, which is well below the median values in all four states. The median values of the Affected Towns are also below the median values of Grafton at \$109,000 and Carroll at \$120,000 but above Oxford and Coos.

Within the group of Affected Towns there are three towns, Harts Location, Jackson and Waterville Valley, with median home values over \$250,000. The high values in these three towns are associated with recreation and seasonal home development. Most of the other towns with median home values above the average have strong recreation and second home components. Appendix A contains a table showing actual median home values for all of the Affected Towns.

**2.8.3 Seasonal Homes**

A striking characteristic of many of the Affected Towns as well as other communities in the Forest Region is the very high percentages of seasonal homes. There has always been a strong tradition among more affluent New Englanders to own seasonal homes to get away from the city. This phenomenon has grown in the Forest Region to a point that in some communities more than half of the homes are seasonal. Figure 2-18 shows the distribution of seasonal homes and Appendix A has tables with additional data on seasonal homes and the distribution of all home values. Seasonal homes make up 32% of all homes in the Affected Towns, while 7 of these communities have more than 50% seasonal homes. Waterville Valley, which is a ski resort community, has over 76% seasonal homes.

Seasonal homes are common throughout the Forest Region. Grafton County leads with 43% while over 20% of homes in Carroll, Coos and Oxford are seasonal. These seasonal homes account for much of the high variability in home values and are a driving force for the economy in many Forest Region communities.

The White Mountains region has long been a recreation area, but the continued growth of seasonal home ownership will continue to alter the socio-economic character of the Forest Region communities, the community's attitudes toward the Forest, and the balance among resource uses.

## **2.9 SUMMARY**

The demographic and social profile of the Affected Towns and the Forest Region is one of a population that is very homogeneous in race and culture that nevertheless exhibits marked differences in economic and social characteristics. Along many economic and social indicators there is a marked gradient from the south to the north of the Forest Region that is part of the economic and social geography of New Hampshire and Maine. To the south in Carroll and Grafton Counties there is a rapidly growing population with an economy that is growing quickly in the service sectors, with strong tourism and recreation components. These counties have a more educated work force and are less dependent on traditional manufacturing sectors. In contrast, the two Northern counties of Coos and Oxford have slower economic growth and greater dependence on traditional natural resource based manufacturing industries.



