



## 2.1 Demographics and Economic Trends

Tables 2.1 and 2.2 present baseline demographic data for the three counties of the Northeast Kingdom. Residents are older and have significantly lower incomes than the rest of the state. Although property values are also lower, NEK residents are more likely to pay a proportionately higher share of income for housing, which may ultimately reduce food budgets. The region also has a larger share of seasonal homes than statewide. According to the 2010 Census, more than one out of every five housing units in the Northeast Kingdom is a vacant housing unit intended for “seasonal, recreational, or occasional use.”

The Northeast Kingdom continues to have high percentages of owner-occupied housing units – a misleading figure that is not an indicator of economic well-being or affordability. Rather, it may be a reflection of the relative lack of alternatives to home ownership, such as apartments and home shares. For example, Essex County, which has the lowest median household income in the state, also has the second highest rate of owner occupancy in the state of just over 80%. By contrast, Chittenden County, which has the highest median household income, has the lowest rate of owner-occupancy in the state of just over 65%.

According to most recent population estimates, the region has seen a drop of about 1% since the 2010 Census.

Table 2.1 NEK Population and Housing Units by County

Data Measures	Caledonia	Essex	Orleans	VT
<b>Population 2010</b>	31,227	6,306	27,231	625,741
<b>Estimated Pop. 2014</b>	30,981	6,125	27,082	626,562
<b>Median Age 2010</b>	42.1	47.4	43.7	41.5
<b>Median Age 2000</b>	38.5	39.0	39.3	37.7
<b>Households 2010</b>	12,553	2,818	11,320	256,442
<b>Avg. Household Size (2010)</b>	2.4	2.2	2.3	2.3
<b>Avg. Household Size (2000)</b>	2.5	2.5	2.5	2.4
<b>Housing Units</b>	15,942	5,019	16,162	322,539
<b>Occupied</b>	12,553	2,818	11,320	256,442
<b>... Owner Occupied</b>	73.6%	80.2%	75.6%	70.7%
<b>...Renter Occupied</b>	26.4%	19.8%	24.4%	29.3%
<b>Vacant units for seasonal, recreational or occasional use</b>	14.9%	38.4%	24.4%	15.6%

Source: US Census Bureau, 2010 Census

\*US Census Bureau, Population Division: Annual Estimate of the Resident Population, July 1 2014

Table 2.2: Income and Housing Characteristics

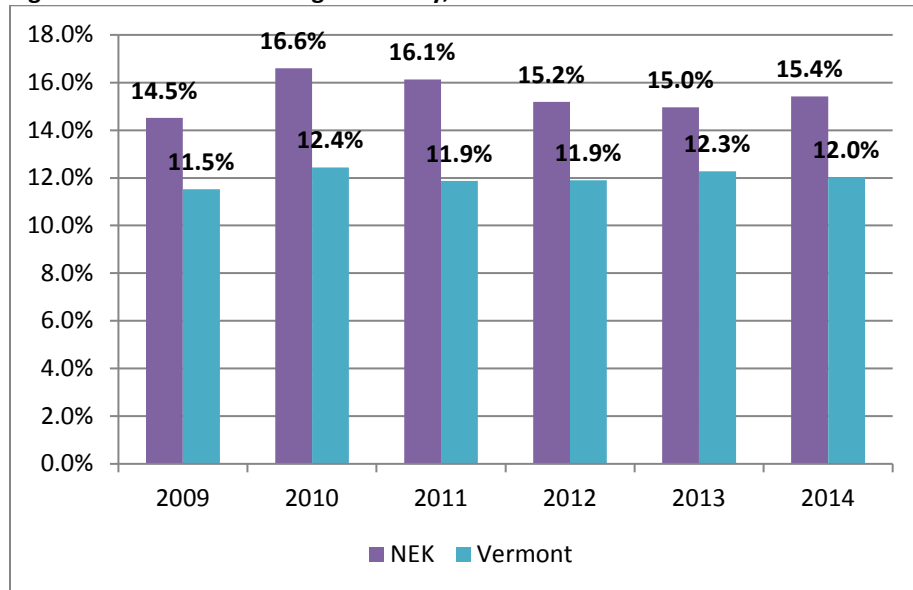
Data Measures	Caledonia	Essex	Orleans	Vermont
<b>Median Household Income</b>	\$45,089	\$35,567	\$41,437	\$54,447
<b>Median Housing Unit Value</b>	\$161,800	\$120,300	\$155,600	\$216,200
<b>% of housing unit w/mortgage that cost 35% or more of household income</b>	27.4	28.9	29.7	27.0

**% of rented units that cost 35% or more of household income**

44.4      48.9      44.9      42.4

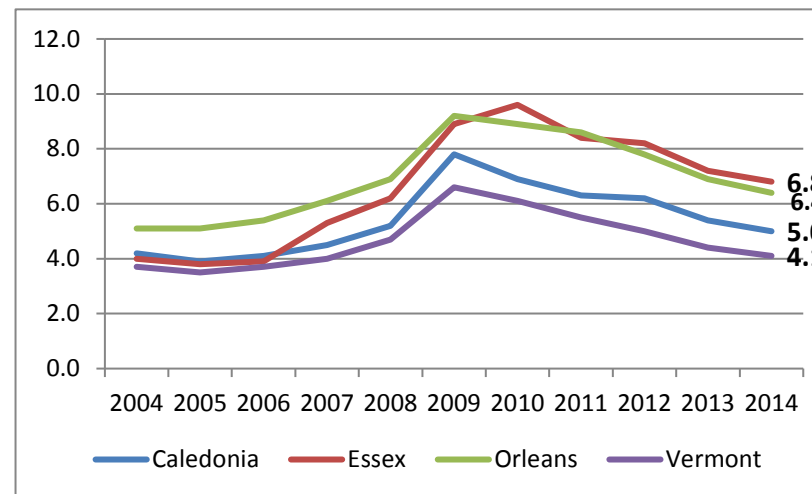
Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

**Figure 2.1: All Persons Living in Poverty, 2009-2014**



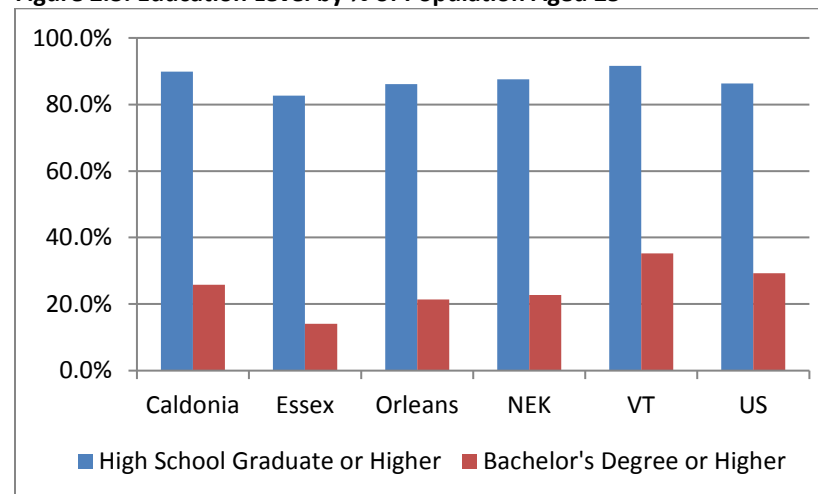
Source: U.S. Census Bureau, Small Area Income and Poverty Estimates

**Figure 2.2, Annual Average Unemployment Rate, NEK & Vermont, 2004-2014**



Source: Vermont Department of Labor, Economic & Labor Market Information, in cooperation with the U.S. Bureau of Labor Statistics.

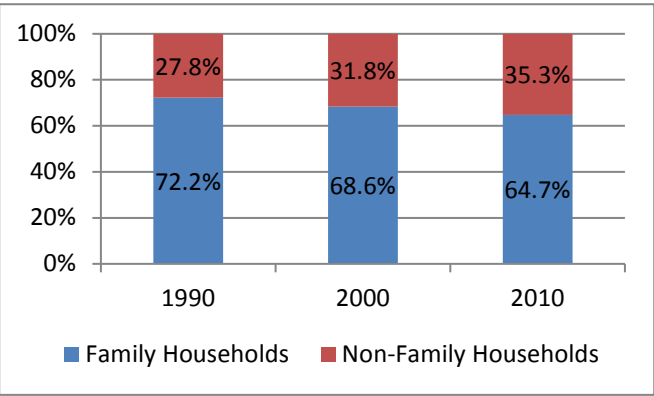
**Figure 2.3: Education Level by % of Population Aged 25+**



Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

Like the rest of the state, the Northeast Kingdom is undergoing a fundamental demographic shift that may have long-range implications for how we purchase, prepare, and consume food. (Figures 2.4-2.5) Households are getting smaller, and this change is accompanied by a significant decrease in family households. Non-family households now account for more than 35% of all households in the Northeast Kingdom, up from just 28% in 1990. This is significant because family households typically enjoy greater cost efficiency over non-family households, resulting in more disposable income.

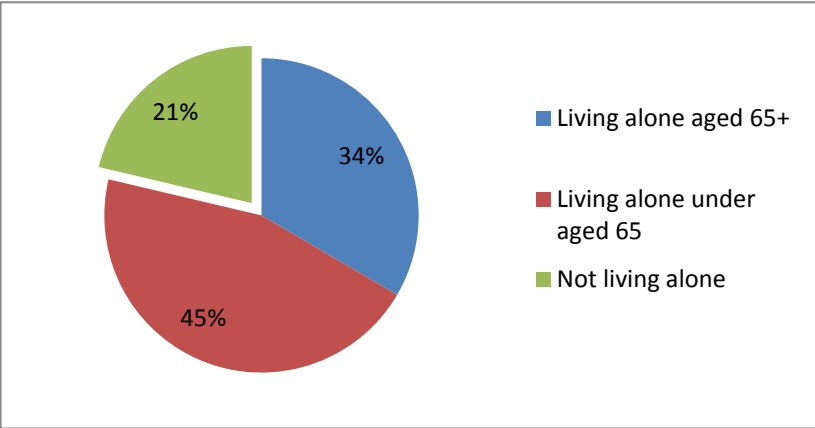
**Figure 2.4: Makeup of Households in the Northeast Kingdom, 1990-2010**



Source: U.S. Census Bureau 2000-2010. 1990 data comes from Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011.

The overwhelming majority of non-family households are individuals who live alone. More than a third of those who live alone are 65 years or older. (This sector of the region’s population grew by more than 15% over the previous decade.)

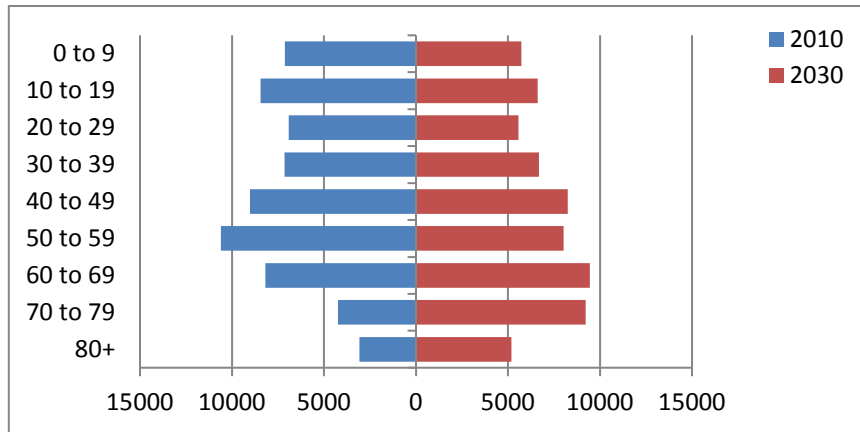
**Figure 2.5: Non-family households in the NEK 2010**



Source: U.S. Census Bureau 2010

According to the latest Census, about a quarter of the Northeast Kingdom’s population is aged 65 and older. By 2030, however, this age group could account for nearly 40% of the population. In 2013, the State of Vermont released two sets of population projections: A) Based on more robust growth and migration rates seen in the 1990s, and B) Based on slower migration rates seen in the 2000s. Both sets of projections show a decrease in every age group under 60 and an increase in every age group over 60. Populations aged 70+ could more than double.

**Figure 2.6 Age Projections for the Northeast Kingdom**



Source: State of Vermont, Vermont Population Projections, 2010-2030 (Scenario B)

Measuring employment related to the food system can be difficult given the nature of employment patterns. The following tables examine the nature of employment and relation to the food system through two lenses: *covered employment* and *non-employers*. By both measures, the NEK has a relatively high proportion of employment activity in the land-based economy, although much of this is focused on forestry, rather than agriculture. The region also has seen significant expansion in value-added processing, which is reflected in food manufacturing (NAICS 311) total. Tables 2.3 -2.4.

**Covered employment** refers to employers subject to Vermont's Unemployment Compensation Law and includes: private for-profit businesses with one or more employees; government agencies, non-profit religious, charitable, or educational firms with at least four employees; and farms employing ten or more workers. Self-employed and many farms are therefore excluded from covered employment figures.

**Non-employers** constitute the majority of all business establishments in the United States, yet these firms average less than 4 percent of all sales and receipts nationally. (U.S. Census Bureau) Most nonemployers are self-employed individuals operating unincorporated businesses (known as sole proprietorships), which may or may not be the owner's principal source of income.

**Table 2.3: Covered Employment 2010-2014**

	Caledonia		Essex		Orleans		Vermont	
	2010	2014	2010	2014	2010	2014	2010	2014
Average Annual Wage, 2014	\$34,422	\$37,215	\$30,893	\$34,752	\$31,661	\$34,450	\$39,425	\$43,017
Covered Employment 2014	10,966	10,911	1,146	1,058	9,701	10,543	293,088	304,554
Establishments	1,028	1,019	170	180	946	928	24,159	24,398
Agriculture, Forestry, Fishing and Hunting	16	20	15	12	28	35	387	447
% of Establishments	1.6%	2.0%	8.8%	6.7%	3.0%	3.8%	1.6%	1.8%

<b>Crop Production</b>	5	4	2	3	3	5	86	112
<b>Animal Production and Aquaculture</b>	5	5	4	4	14	16	169	191
<b>Agriculture and Forestry Support Activities</b>	2	4	1	-	4	10	59	64
<b>Employment in Manufacturing</b>	1,502	1,361	n/a	144	1,057	1,325	30,803	31,200
<b>Food Production (NAICS 311)</b>	113	118	-	-	141	181	4,123	5,281
<b>Employment in Services</b>	6,620	6,700	368	409	5,812	6,246	192,896	201,915
<b>Employment in Government</b>	2,100	2,053	406	415	2,076	2,080	52,824	53,026

Source: Vermont Department of Labor, Economic & Labor Market Information, in cooperation with the U.S. Bureau of Labor Statistics.

**Table 2.4: Non-Employers in the Northeast Kingdom, Vermont**

	<b>Caledonia</b>	<b>Essex</b>	<b>Orleans</b>	<b>Vermont</b>
<b>All establishments</b>	2,964	540	2,541	59,446
<b>All receipts (in 1000s)</b>	\$113,912	\$19,692	\$97,659	\$2,431,875
<b>Agriculture, Forestry, Fishing and Hunting (NAICS 11)</b>	242	76	222	2,018
<b>% of all establishments</b>	8.2%	14.1%	8.7%	3.4%
<b>Receipts</b>	\$12,097	\$ 5,068	\$8,117	\$ 82,974
<b>% of all receipts</b>	10.6%	25.7%	8.3%	3.4%
<b>Establishments - Support Industries for crop production</b>	27	n/a	49	356
<b>Receipts (1000s)</b>	\$417	n/a	\$693	\$8,659
<b>Establishment in Support Industries for animal production</b>	29	n/a	21	279
<b>Receipts (1000s)</b>	757	n/a	\$1,312	\$10,709
<b>Establishments-Food Production (NAICS 311)</b>	28	7	50	559
<b>Receipts (1000s)</b>	\$505	\$ 123	\$1,022	\$14,270

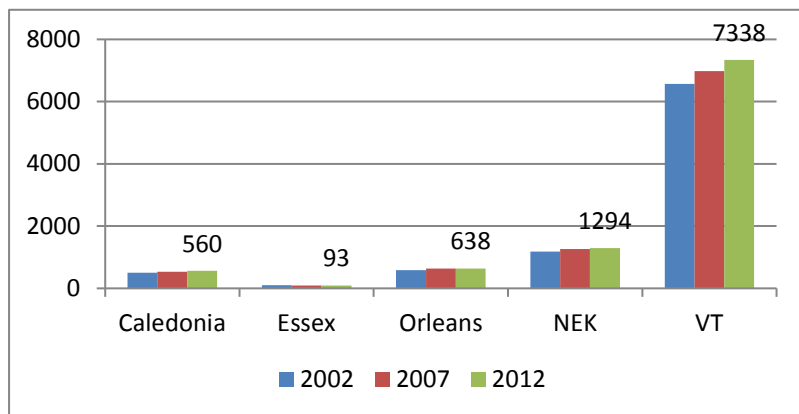
Source: US Census Bureau (note: n/a means that data is suppressed)



## 2.2 Agricultural Trends in the Northeast Kingdom

According to the 2012 Ag Census, there are 1,294 farms in the region, up from 1,260 farms in 2007. The largest gain was in Caledonia County (up by 29 farms), which helped to offset a small drop in Essex County. The region – like the rest of the state – is experiencing an agricultural renaissance that directly counters a national trend of decline: the 2012 Ag Census shows a loss of 94,489 farms nationwide since 2007.

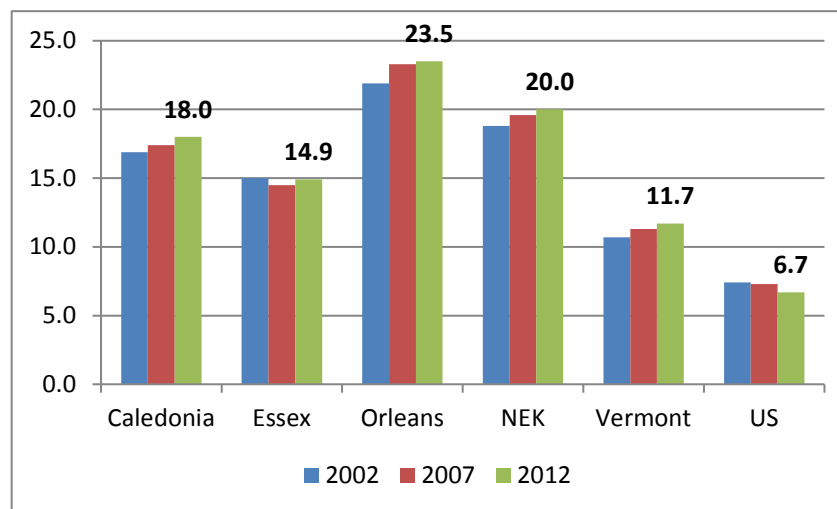
**Figure 2.7: Number of Farms 2002-2012**



In terms of total farms, Caledonia, Essex, and Orleans Counties rank 8<sup>th</sup>, 14<sup>th</sup>, and 6<sup>th</sup>, respectively. However, our uniquely rural settlement patterns and low development densities contribute to a significantly higher number of farms per capita than statewide – and that figure has increased from the 2002 and 2007 Ag Censuses. (Figure 2.8)

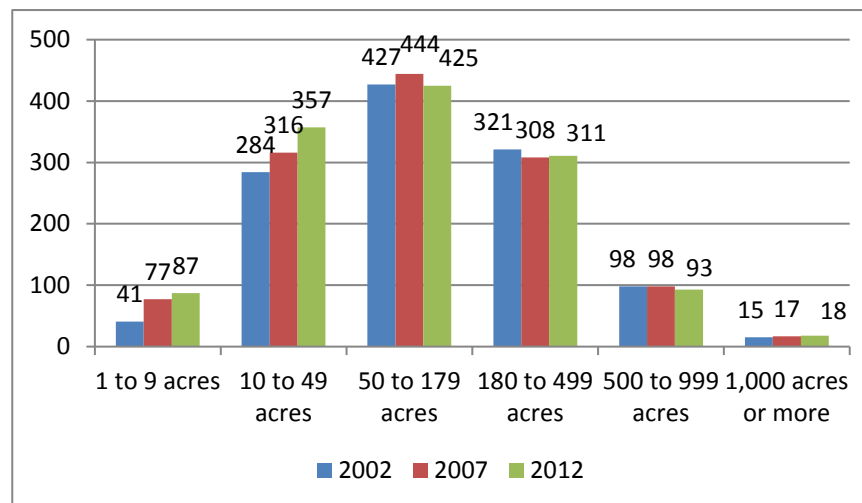
Ironically, the overall increase in number of farms was accompanied by a drop in total land in farms by 1,222 acres from the 2007 Census. The decrease is likely attributed to the declining role of dairy in farming. In fact, the most significant drop in farmland was land used for pasture and grazing (down by 6,232 acres from 2007).

**Figure 2.8: Farms Per Capita in the NEK, Vermont, and the US, 2002-2012**



The region is seeing a shift toward smaller sized farms. (Figure 2.9) Very small farms (fewer than 50 acres) now account for 35% of all farms in the region, up from 31% in 2007 and 28% in 2002.

**Figure 2.9: Distribution of Farms by Size, 2002-2012**





## 2.3 Sales and Profitability

The 2012 Ag Census suggests that NEK farms, in general, are producing higher incomes than 2007, although there are some statistical aberrations. More than half of the farms in the region –55% -- reported sales of under \$10,000. However, that represents an overall drop from nearly 57% from the 2007 Ag Census. Table 2.5 shows the changes in income categories for each county.

**Table 2.5 Farms by Income Category, 2007-2012**

	Caledonia		Essex		Orleans		NEK	
	2007	2012	2007	2012	2007	2012	2007	2012
<b>Less than \$10,000</b>	336	334	56	49	323	328	715	711
<b>\$10,000 to 49,999</b>	96	112	10	14	150	126	256	252
<b>\$50,000 to 99,999</b>	30	38	4	12	37	53	71	103
<b>\$100,000 to \$249,999</b>	37	39	5	1	68	60	110	100
<b>\$250,000 to \$499,000</b>	20	28	11	12	32	35	63	75
<b>\$500,000 or more</b>	12	9	8	5	25	36	45	50

It is possible that many of these low-income farming operations (i.e. less than \$10,000) are only producing hay. However, Caledonia County, which reported the greatest increase in total farming operations, saw a drop in the overall share of low-income farming operations, down from 63.3% in 2007 to 59.6% in 2012, suggesting some of the growth in agriculture in that county may have come from new agricultural enterprises, such as diversified production and value-added production, and direct sales (such as CSAs).

When adjusting for inflation, however, average sales per farm dropped, which the notable exception of income ranges between \$40,000 and \$49,999. (Table 2.6) Caledonia and Orleans are analyzed only because of data suppression in Essex.

**Table 2.6: Sales from Caledonia and Orleans Farms with Annual Sales of \$10,000 or More**

	Total Sales (1000s)			Average Sales per Farm (1000s)		
	2012	2007*	Change	Avg. 2012	Avg. 2007*	Change
<b>10,000 to \$19,999</b>	\$ 1,892	\$ 2,285	-20.8%	\$ 14.67	\$ 15.23	-3.9%
<b>\$20,000 to \$24,999</b>	\$ 627	\$ 627	0.0%	\$ 21.62	\$ 24.12	-11.5%
<b>\$25,000 to \$39,999</b>	\$ 1,738	\$ 1,679	3.4%	\$ 31.60	\$ 34.27	-8.4%
<b>\$40,000 to \$49,999</b>	\$ 1,143	\$ 584	48.9%	\$ 45.72	\$ 27.81	39.2%
<b>\$50,000 to \$99,999</b>	\$ 6,496	\$ 5,252	19.2%	\$ 71.38	\$ 78.39	-9.8%
<b>\$100,000 to \$249,000</b>	\$ 16,516	\$ 19,200	-16.3%	\$ 166.83	\$ 182.86	-9.6%
<b>\$250,000 to \$499,999</b>	\$ 21,209	\$ 19,980	5.8%	\$ 336.65	\$ 384.23	-14.1%
<b>\$500,000 or more</b>	\$ 85,254	\$ 74,220	12.9%	\$ 1,894.53	\$ 2,005.95	-5.9%

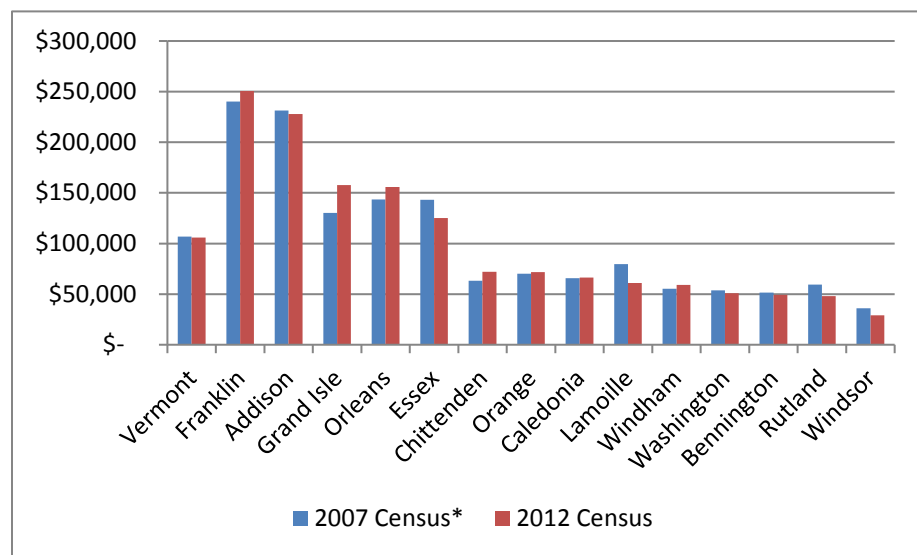
\*2007 sales figures are adjusted for 2012 inflation.



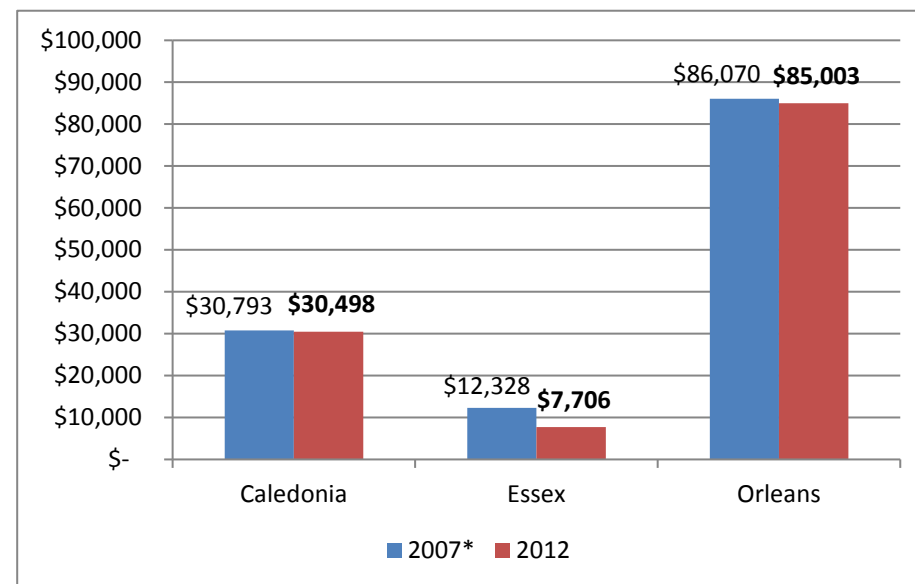
Orleans and Essex Counties rank fourth and fifth among statewide in terms of average sales per farm for all agricultural products sold. Caledonia ranks eighth. After adjusting for inflation, Orleans County saw an 8.4% increase in average sales from the previous Ag Census, while Caledonia saw a more modest 1.1% increase. By contrast, Essex County saw a 12.4% decrease in average sales, the fourth largest drop in the state behind Lamoille, Rutland, and Windsor Counties. (Figure 2.10)

Regional gains came from crop sales. However, all three counties experienced a drop in total sales in livestock. However, Essex County, where farming tends to be less diversified and more reliant on dairy, experienced a steep 38% drop in livestock sales. (Figures 2.11 and 2.12)

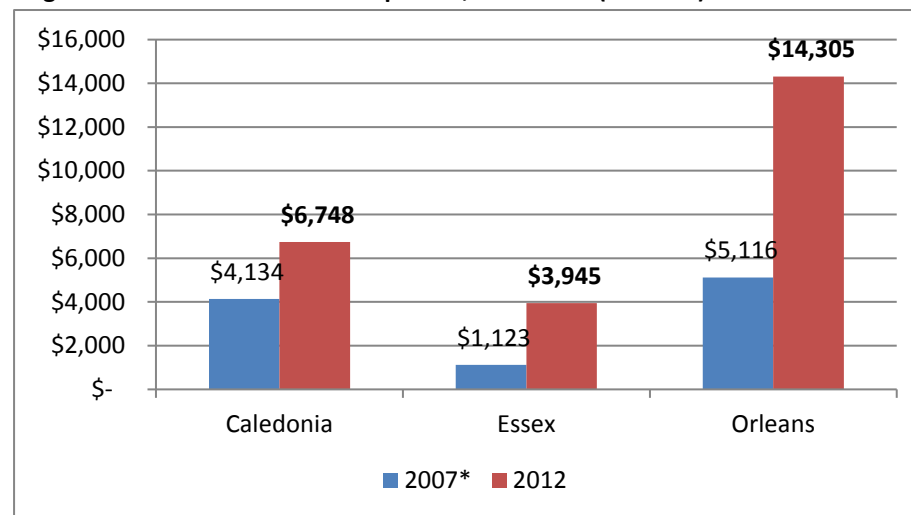
**Figure 2.10: Average Sales Per Farm, 2007-2012 (in dollars)**



**Figure 2.11: Market Value of all Livestock Sold, 2007-2012 (in 1000s)**



**Figure 2.12: Market Value of Crops Sold, 2007-2012 (in 1000s)**

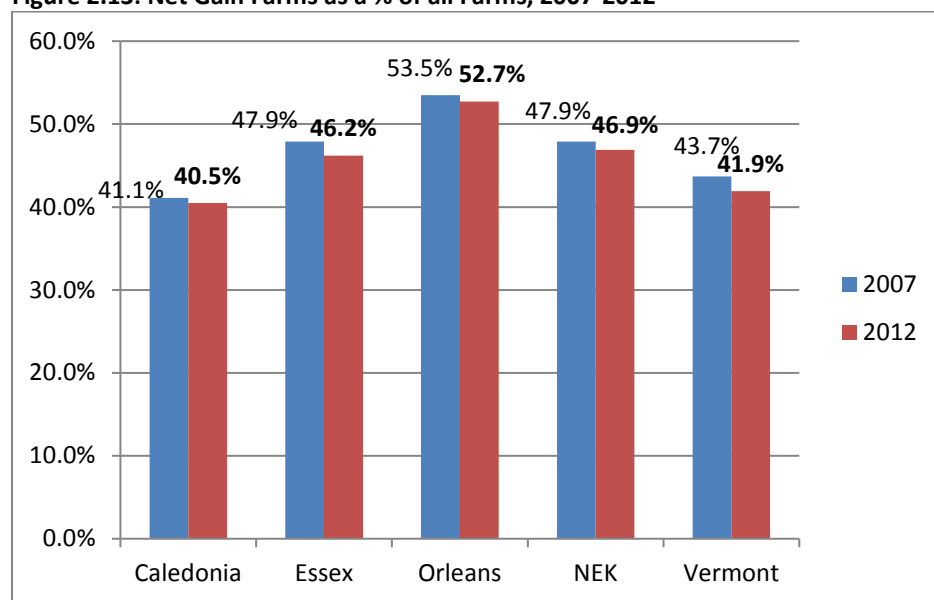


\*2007 figures adjusted for inflation.

The Ag Census considers a farms that at least broke even (i.e., total production expenses equaled all sales and income) to be a *net gain farm*. By that definition, farms in the region are more likely to be profitable than statewide. More than half of all farms in Orleans County are net gain farms. However, in 2012, net gain farms accounted for a smaller percentage of all farms than the previous Census. (Figure 2.13)

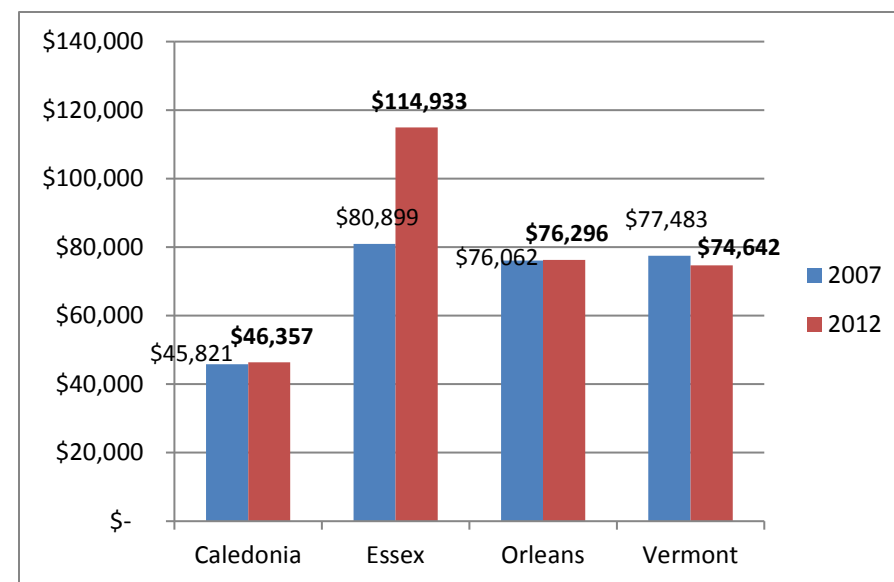
Interestingly, Caledonia County, which has the lowest *percentage* of net gain farms, is the only county in the region to report an *absolute increase* of 9 net gain farms from 2007 to 2012. During that same period, the entire state experienced an absolute increase of only 27 net gain farms, which means that one-third of net-gain growth can be attributed to Caledonia County.

**Figure 2.13: Net Gain Farms as a % of all Farms, 2007-2012**



In the region, average net gain per farm rose slightly from the previous Census when adjusted for inflation. The significant exception is Essex County, where one or more outliers may be skewing averages upward. By contrast, average net gain per farm statewide dropped from the previous Census. (Figure 2.14)

**Figure 2.14: Average Net Gains Per Farm, 2007\*-2012**



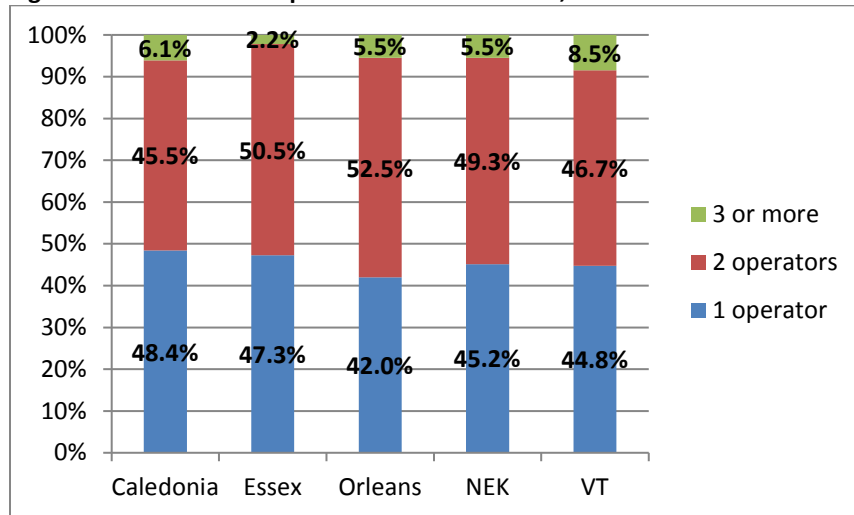
\*2007 figures adjusted for inflation.

## 2.4: Farm Operations and Operators

According to the Ag Census, the vast majority of farms in the region and state are considered family farms (98% and 97% respectively), which is defined by USDA as any farm where the majority of the farm is owned by the operator and/or individuals who are related to the operator, including those who do not live in the operator's household. This is consistent with nationwide trends: The 2012 Ag Census reports that 97% of US farms are considered family farms.

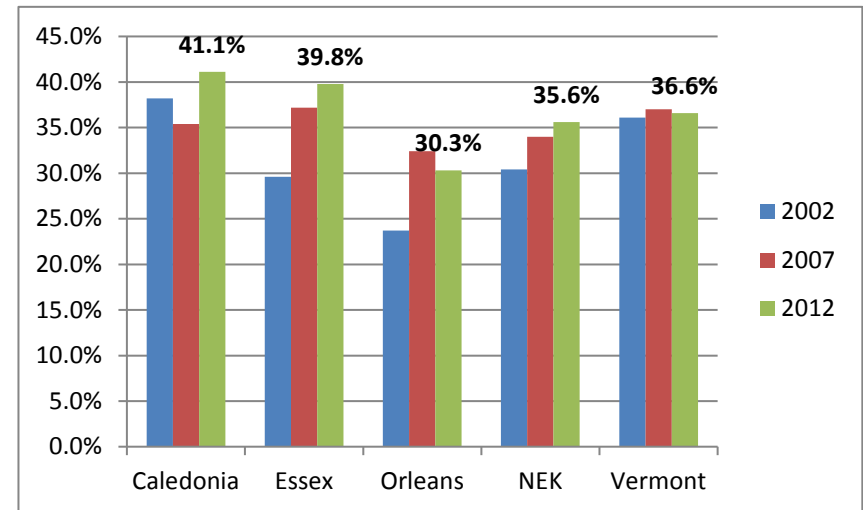
Farms in Caledonia and Essex County have a higher proportion of farms with only one operator than statewide. (Figure 2.15)

**Figure 2.15: Number of Operators as a % of Farms, 2012**



Compared with the rest of the state, the region used to have a smaller share of farms where the principal operator worked off-farm for 200 days or more. This is no longer the case. The most recent Census shows that of the three counties, Caledonia has the highest percentage of principal operators working off the farm. (Figure 2.16) Despite the growth of farming in Caledonia, it still has a relatively large share of smaller farms and operations with total sales of less than \$10,000.

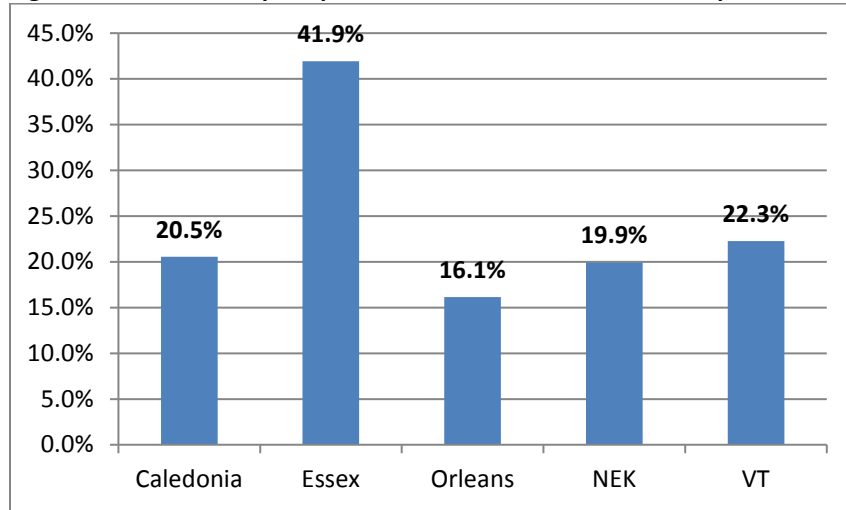
**Table 2.16: % of Principal Operators Working Off-the Farm for 200 Days or More, 2002-2012**



USDA defines a *beginning farmer* as a principal operator who has operated the farm for ten year or less, either as a sole operator or with others. Research has shown that that beginning farmers are more likely to face obstacles, such as high start-up costs and limited availability of land. (Ahearn and Newton). Published Census tables do not line up exactly with that definition, but it is reasonable to estimate that about a third of all NEK farmers are beginning farmers, which is more or less in line with statewide figures.

The 2012 Agricultural Census collected new data on experience working on *any* farm. According to this data, about one in every five farmers in the region has worked on any farm for less than 10 years, but experience levels vary significantly among the three counties. (Figure 2.17)

**Figure 2.17: % of Principal Operators with Less than 10 Years' Experience**



Beginning farmers are not necessarily young farmers. A 2016 study by the American Farmland Trust and Land for Good found that 58% of beginning farmers in Vermont were aged 45 or older. (Beginning farmers in this study were defined as having 10 years or less experience operating any farm.) This research has important implications for aligning services and policies to assist beginning farmers. For example, older beginners, may be bringing assets from previous careers, so technical and business support may be more critical than capital. Additionally, the study identified the following trends. Compared to their younger counterparts, older beginners:

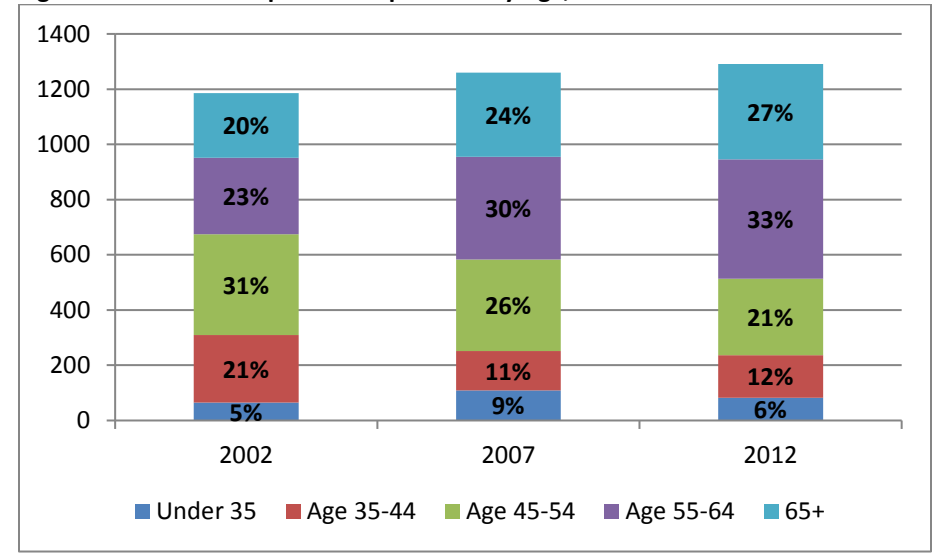
- tend to farm less acreage (76 acres compared to 112);
- generate less in average agricultural sales (\$15,000 compared to \$53,000); and
- operate with a net loss of -\$8,000 (compared to \$8,000).

Ironically, many of these older beginners may need to think about succession planning, even as they are growing their businesses.

## 2.5: Senior Farmers

According to the 2012 Census, farmers aged 55 and older operate 60% of all NEK farms, up from 53% in 2002. (Figure 2.18)

**Figure 2.18: NEK Principal Farm Operators by Age, 2002-2012**



The vast majority of Vermont farmers aged 65 and older do not have a younger farmer (under aged 45) working alongside them. (AFT) While this does not necessarily mean that these senior farmers do not have a succession plan, the future of many of these farms is uncertain. Using a special tabulation of 2012 at the county level, we can determine that:

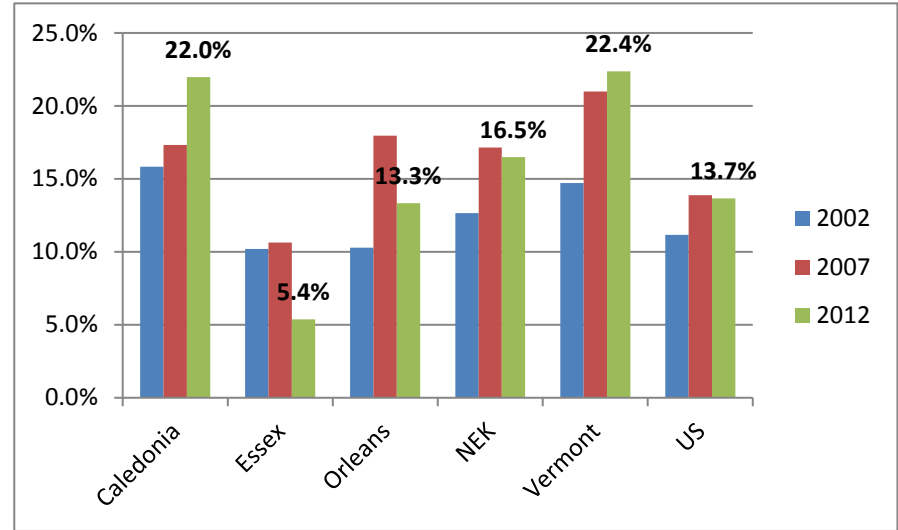
- There are 151 farms in Caledonia County with a principal operator aged 65 or older. Only 5 of these farms have identified a potential successor (i.e. an additional operator under the age of 45).
- Of the 21 farms in Essex County with a 65+ principal operator, only 1 farm has a potential successor.
- There are 173 farms in Orleans County with a 65+ principal operator, only 13 with a potential successor.

Nearly one-third of our region’s farmers are likely to exit farming in the next two decades. Technical services, outreach, and public policy must be better aligned to facilitate succession planning to qualified successors.

**2.6: Women in Farming**

Women are increasingly accounting for a greater percentage of principal farm operators in Vermont. Collectively, there are 213 women principal operators in the NEK, down from 216 in 2007. While Caledonia County saw an increase in women principal operators from 2007 to 2012, this was offset by decreases in Essex and Orleans Counties. The region still falls well below the state average, but above the national average. More than half of women principal operators in the NEK do not farm as a primary occupation, suggesting that more resources and services are needed to help women farmers enter farming and expand their existing businesses.

**Figure 2.19: Women Principal Operators in the NEK, VT, and US, 2002-2012**



## Selected Statistical Updates from 2011: Farm Viability in the NEK

Target	Measurement	Update
By 2017, the number of farms will increase by 15% from 2007 levels.	Total number of farms in the NEK, U.S. Census of Agriculture	In 2012, the number of farms in the NEK increased by 2.5% from 2007. Caledonia gained 29 farms, Orleans County 3. Essex County lost one farm.
By 2017, there will be a 5% increase (above annual inflation) in total market value of agricultural products sold in the Northeast Kingdom from 2007 levels.	Total value of agricultural products sold, U.S. Census of Agriculture	In 2012, the market value of all agricultural products sold was \$150,216,000, up from \$126,037,000 in 2007. Adjusted for inflation, this represents a 7.6% increase in the value of all products sold.
By 2017, there will be a 15% increase (above annual inflation) in the sales of crops and livestock.	Total value of sales of crops and livestock, U.S. Census of Agriculture	In 2012, the value of all crops sold rose from 2007 by 141% when adjusted for inflation. The value of all livestock products sold dropped by 4.6% over the same period.
By 2017, the total sales of farms making more than \$10,000 per year will increase by 50% (above annual inflation) from 2007 levels	Net cash income of farm operations, U.S. Census of Agriculture	In 2012, total sales from Caledonia and Orleans farms with sales of \$10,000 or more amounted to \$137.8 M, representing a 9.5% increase from 2007, when adjusted for inflation.
Farm business net income will increase above annual inflation	U.S. Census of Agriculture	In 2012, net farm income in the region was just over \$32M, representing a .1% increase when adjusted for inflation.
Percentage of farms with female principal operators is increasing	U.S. Census of Agriculture	In 2012, the percentage of female principal operators was 16.5%, down from 17.1%. Caledonia county, however, experienced an increase from 17.3% to 22% during the same period.
Mean age of farmers will decrease	U.S. Census of Agriculture	In 2012, the mean age of the NEK farmer was 56.1 years, up from 55.4 in 2007, but lower than the statewide mean of 57.3 years.