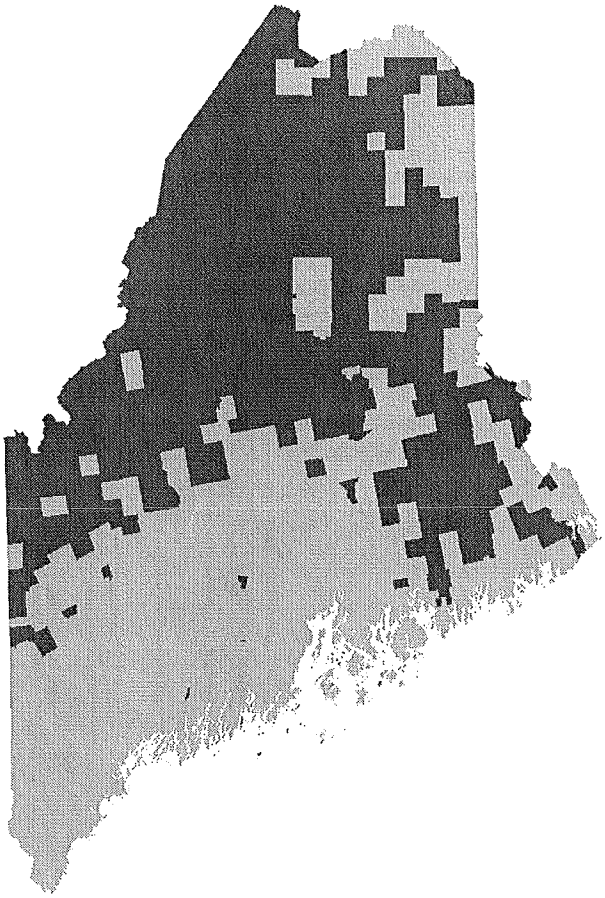
A REPORT TO THE
MAINE LAND USE REGULATION COMMISSION



Patterns of Change:

THREE DECADES OF CHANGE IN LURC'S JURISDICTION

Prepared by:
Planning Decisions, Inc.
South Portland, Maine

With assistance from:
Alison Truesdale, Landforms
Brunswick, Maine

MAY 2006

This report was prepared to assist the Land Use Regulation Commission with its Comprehensive Land Use Plan update. While many generous individuals helped prepare this report, special thanks to Aga Pinette (Land Use Regulation Commission), Fred Todd (Land Use Regulation Commission), Scott Woodruff (Department of Conservation), and Bob Doiron (Maine Revenue Services) for their assistance.

This document does not necessarily reflect the views of the Land Use Regulation Commission.

Prepared by:
Planning Decisions, Inc
South Portland, Maine

With assistance from:
Alison Truesdale, Landforms
Brunswick, Maine

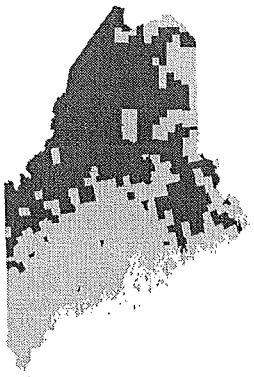


Table of Contents

Executive Summary 6

Section 1. Introduction 11

Section 2. Changing People, Changing Demographics 14

2a. Introduction and Key Findings 14

2b. Year-Round Population 15

2c. Year-Round Population Projections 18

2d. Seasonal Population Estimates 19

2e. Housing Unit Growth 20

2f. Seasonal Housing Projections 23

2g. Demographic Change 26

Section 3. Changing Patterns of Land Ownership 32

3a. Introduction and Key Findings 32

3b. New Account Activity 34

3c. Types of Ownership Change 36

3d. Implications of Changing Land Ownership 37

Section 4. Changing Patterns of Land Use 40

4a. Introduction and Key Findings 40

4b. Residential Patterns of Land Use 41

4c. Commercial Patterns of Land Use 48

4d. Subdivision Patterns 49

Section 5. Changing Economic Forces 52

5a. Introduction and Key Findings 52

5b. Characteristics of the Jurisdiction's Year-Round Residents 53

5c. Measuring the Seasonal Pattern of Tourism on the Region's Economy 63

5d. Broader Economic Forces Affecting the Northern Forest 66

5e. Conclusion 76

Section 6. Region by Region Summary 78

Appendix A. Sources of Data 97

Appendix B. Housing Unit Analysis 100

Appendix C. Population and Demographic Analysis 105

Appendix D. Land Ownership Change 112

Table of Figures

Section 2. Changing People, Changing Demographics

Figure 2-1: LURC Year Round Population, 1970 – 2015 15
Figure 2-2: Rate of Population Change, 1970 to 2000 16
Figure 2-3: Year Round Population Change, 1990 to 2005 (estimated) 16
Figure 2-4: Year-round Population, 2005 (estimate) 17
Figure 2.5: Year-round Population, 2015 (projected) 18
Figure 2-6: Housing Unit Change, 1990 to 2000 20
Figure 2-7: Year Housing Unit Built 21
Figure 2-8: Characteristics of Housing Units, Occupied versus Vacant*, 2000 22
Figure 2-9: Distribution of Seasonal Units by Permanent Residence of Owner 24
Figure 2.10: Age of Population in LURC Jurisdiction, 1990 - 2000 26
Figure 2-11: Age of LURC Population, Age of Maine Population, 2000 26
Figure 2-12: Age by Region, 2000 27
Figure 2-13: Average Household Size, 1970 to 2000 27
Figure 2-14: Occupied Housing Units by Year Household Moved In, 2000 28
Figure 2-15: Household Income by Type, 2000 30
Figure 2-16: Workers by Occupation, 2000 31
Figure 2-17: Workers by Industry, 2000 31

Section 3. Changing Patterns of Land Ownership

Figure 3-1: Ownership Change in Study Area, 1985 to 2005 34
Figure 3-2: Leasehold Change in Study Area, 1985 to 2005 35
Figure 3-3: Net Account Change in Study Area, 1985 to 2005 35
Figure 3-16: Ownership Change in Study Area, 1985 to 2005 37

Section 4. Changing Patterns of Land Use

Figure 4-1: Building Permits Issued in Jurisdiction, 1972 - 2005 42
Figure 4-2. Number of Permits Issued by MCD, '72 to '05 42
Figure 4-3. Minor Civil Divisions with 100 or More Building Permits, 1972 to 2005 43
Figure 4-4. MCDs with 100 or More Permits Issued, 1972 to 2005 44
Figure 4-5: Building Permits by Region, 1972 to 2005 45
Figure 4-6: Building Permits Issued to Parcels within 1,500 Feet of Roads, '72 to '05 45
Figure 4-7: Building Permits Issued to Water-Related Parcels, 1972 to 2005 46
Figure 4-8: Building Permits for Residences with Seasonal Characteristics[1], '72 to '05 47
Figure 4-9: Types of Commercial Development, 1992 to 2005 48
Figure 4-10: Proximity of Permits for New Commercial Development, 1992 to 2005 49
Figure 4-11: New Residential Subdivisions, 1971 – 2005 (July) 50
Figure 4-12: Subdivision Approvals by Region by Decade, 1971 to 2005 50
Figure 4-13: Subdivision Activity by Region, 1972 to 2005 51

[1] See Footnote 13 for more information.

Section 5. Changing Economic Forces

Figure 5-1: LURC Employment & Relative Share of Employment by Categories, 2000 54
Figure 5-2: Households by Income, LURC and Maine, 2000 54
Figure 5-3. Income by Source, LURC and Maine, 2000 55
Figure 5-4: Population by Age Group, LURC and Maine, 2000 55
Figure 5-5: Population by Education Level, LURC and Maine, 2000 55
Figure 5-6: Relative Importance of Forest Products Industry 56
Figure 5-7: Relative Importance of Tourism Industry 57
Figure 5-8: Major Economic Regions 58
Figure 5-9: Relative Share of Key Economic Indices by Region, 2003 59
Figure 5-10: Relative Share of Earnings by Key Industries by Region, 2003 60
Figure 5-11: Growth Rates of Key Economic Variables by Major Region, 1990 – 2003 61
Figure 5-12: Growth Rates of Real Earnings by Sector & Region, 1990 – 2003 62
Figure 5-13: Forest Related Tourism Sales in Maine, 2001 estimate 63
Figure 5-14: 3-year Average of Retail Sales in the Rim Region, '92-'94 and '01-'04 64
Figure 5-15: Seasonal Pattern of Consumer Retail Sales, 2002 to 2004 65
Figure 5-16: Seasonal Pattern of Restaurant and Lodging Sales, 2002 to 2004 66
Figure 5-17: Indices of Productivity Growth, Maine, 1977 to 2002 68
Figure 5-18: Price of the Canadian Dollar in U.S. Dollars, 1993 to 2005 71
Figure 5-19: Maine Forest Products Trade with Canada, 1993 and 2002 ($ million) 72
Figure 5-20: The Demand Supply Structure of the LURC Economy 77

Executive Summary

This report is about change.

Since the 1970s, the pace of change in Maine's north woods has increased. The resource-based economy has been working hard to modernize itself. The population living within the jurisdiction has grown. The pattern of land ownership has been transformed. These changes in turn have affected the pattern of development – where people are building homes and businesses.

And these changes are going to continue. As our population grows older and spreads out across the landscape, it is going to affect how and where development occurs in Maine's north woods. Our resource-based economy will continue to seek new opportunities in the fast-changing global economy. And the pattern of ownership in the north woods will continue to evolve.

This report provides the factual basis for understanding change within the Land Use Regulation Commission's jurisdiction. It describes where change has occurred, identifies what types of changes have occurred, and discusses what is likely to occur in the future. This report is designed to assist the Land Use Regulation Commission write its 2007 Comprehensive Land Use Plan.

Much has been written about the Land Use Regulation Commission's jurisdiction and Maine's north woods. This report is an extension of a series of five studies that were presented to the Land Use Regulation Commission in the early 1990s for its current Comprehensive Land Use Plan. These reports culminated in *A Summary of Current Policies and their Net Effect After 20 Years of Development*[2].

This report identifies several major findings that have implications for land use in LURC's jurisdiction:

1. ***The year-round population in the jurisdiction is growing.*** In 2005, an estimated 12,419 year-round residents lived in LURC's jurisdiction. This growth has tended to occur close to the edge of LURC's jurisdiction near service center communities and in the Western Mountains and Moosehead regions. Much of this population growth has come at the expense of communities abutting LURC's jurisdiction that have lost population.

2. ***The number of housing units is growing faster than the population.*** The year-round population grew by 5% between 1990 and 2000 while the number of housing units grew by 16%. This is due to the very large number of housing units that are used seasonally (and therefore are not occupied by year-round residents) and the declining number of

[2] *A Summary of Current Policies and their Net Effects After 20 Years of Development,* Land & Water Associates (Hallowell, Maine) and Market Decisions (South Portland, Maine). June, 1994. Prepared for the Subcommittee on Review of the Comprehensive Land Use Plan.

people living in each household (it therefore takes more occupied year-round households to maintain population growth).

3. ***The pattern of land ownership is changing.*** The number of net land accounts in the Unorganized Territory[3] increased by 31% between 1985 and 2005 (or 3,175 net new land accounts). The Moosehead Region nearly doubled the number of net new land accounts. In addition, large landowners – those owning land accounts of more than 200 acres – have changed as industrial timberlands have been decreasing while nonprofit conservation, government, and tribal lands have been increasing.

4. ***Demand for residential units in the jurisdiction is concentrated in a small number of Minor Civil Divisions.*** Nineteen MCDs (4% of MCDs in the study area) accounted for 40% of all the building permits issued between 1972 and 2005. These MCDs tend to be close to regional service centers. New residential units are highly correlated with major roads (35% of all new units are near high speed, long distance road corridors) and bodies of water (42% of all new units are near a water body).

5. ***Demand for residential units in the jurisdiction closely follows national and regional economic trends.*** The relatively weak economy in the north and east has suppressed demand for housing units in these regions. The Western Mountains and Moosehead regions have grown quickly because a large part of their housing demand comes from out-of-state, Cumberland County and York County – all areas with healthy economies.

6. ***The resource-based economy in the jurisdiction has struggled.*** While the recreation and tourism economies are growing, they have not been able to grow quickly enough to offset the employment declines in the forest products industries.

These major findings will have several implications on the principal values of the jurisdiction:

- ***The cost of providing governmental services to residents in the jurisdiction will increase*** as the year-round population continues to grow. In particular, public safety services and education services will become more costly. At the same time, conflict between the communities providing these services and the jurisdiction's residents will grow. The communities providing these services along the jurisdiction's fringe tend to be losing population, and the tax burden for these communities to provide services to their own residents are increasing. These communities will want to ensure they are being compensated fairly for the expense of providing services to residents in LURC's jurisdiction.

- ***Traditional access to the land and the health of natural resources will be threatened*** as the pattern of ownership changes. More complex corporate ownerships that are less tied to the local communities could decrease the traditional access to the landscape that Mainers and visitors have enjoyed for centuries. At the same time, the increase in public ownership and conservation lands that have access easements will help preserve access

[3] Net new land accounts equals the number of new land accounts plus the number of leaseholds. A land account is a parcel of land or two or more contiguous parcels of land owned by the same individual or company.

for generations to come. The health of natural resources can be threatened by fragmenting ownership patterns. Areas closer to transportation corridors or service centers are becoming "rural suburbs" for year-round residents, while waterfront land is being developed for seasonal housing. Fragmentation for residential use could threaten valuable habitat, water quality, and scenic view sheds.

- ***The areas in the jurisdiction that are changing most rapidly tend to have the highest public values.*** While LURC's jurisdiction encompasses more than 10.5 million acres, much of the changing pattern of land use and ownership is highly correlated with major road corridors and bodies of water. These areas tend to have the highest public values for residents and visitors. In the future, development will continue to be located near these features and will endanger the character of the jurisdiction.

- ***If the economy in Northern Maine accelerates, demand for development in the jurisdiction (especially the north and east) will accelerate.*** Residential housing demand in the jurisdiction is closely tied to the health of the regional and national economy. Development in the Downeast, Central, and Aroostook/Interior regions has been suppressed by the lackluster economy in Northern Maine. While the economy of the region will never resemble the traditional forest products economy of three decades ago, this economy of the region will always play an important role in Northern New England.

- ***The Comprehensive Plan Update process must address several questions:***

    - To what extent should timber-growing land be protected to maintain the viability of Maine's forest product industry?

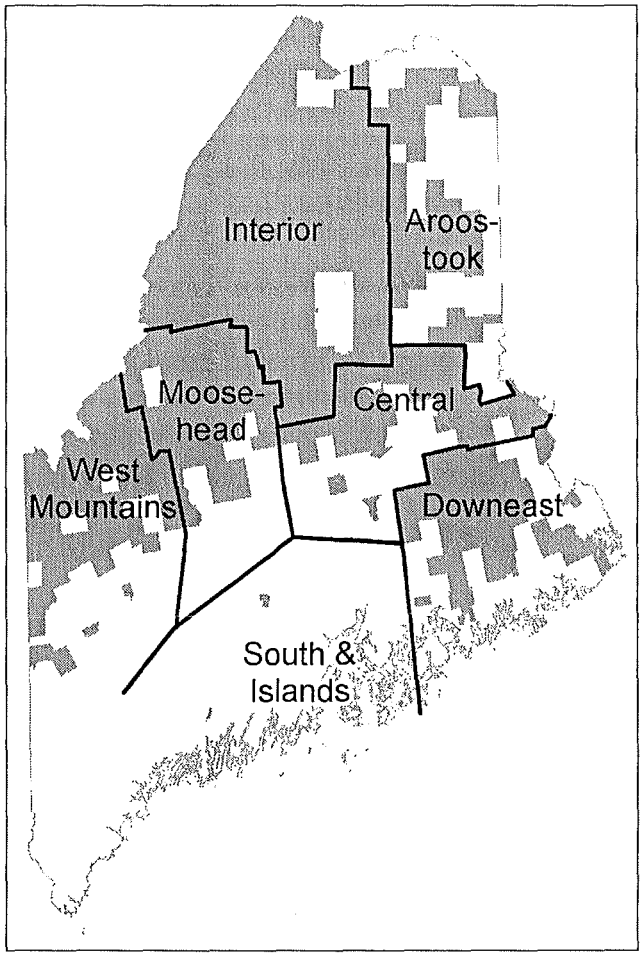
    - To what extent must perceived wilderness areas be preserved to maintain "fundamental Maine values?"

    - Does unplanned, sprawling, incremental development of LURC lands threaten either of the above two values?

    - Should the state of Maine undertake an explicit policy to develop destination tourism as a way to provide alternative sources of employment in interior Maine where earnings and employment have been stagnant for over a decade and where population has been declining?

    - How should LURC regulations be adjusted to help achieve these policy goals?

This report also assesses trends in seven regions within LURC's jurisdiction:[4]



1. The ***Western Mountains Region*** is one of the fastest growing regions in the jurisdiction. Population and housing units grew by 21% in the 1990s. Most of the growth has been mostly on the edge of the jurisdiction and near the Town of Rangeley. Nearly one-half of the seasonal housing units are owned by out-of-state residents, and the relative share of seasonal housing units built near bodies of water has been steadily decreasing since the 1980s. These are the most educated residents with the highest incomes. The year-round population is projected to grow rapidly and seasonal housing unit development is projected to continue at its current level.

2. The ***Moosehead Region*** is one of the fastest growing regions in the jurisdiction. The year-round population grew by 14% and housing units grew by 18%. Most of the new growth has occurred in the Route 201 corridor and around the shores of Moosehead Lake. Between 1985 and 2005, the number of land accounts in the region nearly doubled and the number of leaseholds decreased by nearly 60%. The relative share of new development occurring near bodies of water has been steadily decreasing since the 1970s, but still accounts for more than one-half of the region's development. The population tends to be well educated, have high household incomes, and have a large number of retirees. The year-round population is projected to continue growing and seasonal housing unit development is projected to accelerate.

3. The ***Central Region*** has experienced modest change in recent decades. The population grew by 5% and housing units grew by 12%. Much of the change occurred near Millinocket and in the exurbs of Lincoln. This region has a large number of high speed,

[4] The data in this report comes from a variety of sources (see Appendix A for more detail). The research team encountered difficulties with some of the data sources. This is a common challenge for data that spans long periods of time, is spread over very large areas, and has characteristics endemic to LURC's jurisdiction. These difficulties have been identified wherever the research team encountered challenges. However, the large sample size of the population and the level at which the data was analyzed (region-by-region) greatly increases our confidence in the underlying trends that the data highlights.

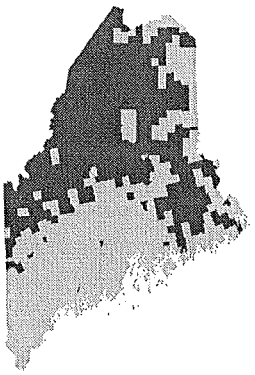
long distance road corridors and experienced a rapid increase in the number of residents that commute to jobs within 10 miles of the jurisdiction – a trend that could increase in the future. The population tends to have more young, working families than the rest of the jurisdiction. The year-round population is projected to grow modestly, largely due to expansion of the number of residents living in the jurisdiction and commuting to work outside of the jurisdiction. Seasonal housing unit development is projected to continue growing at a rapid rate.

4. The ***Downeast Region*** has experienced modest change in recent decades. The number of residents increased by 10% and the number of housing units increased by 21%. Much of the change occurred in Lakeville Plantation, around Beddington, and near Lubec. More than one-half of the new homes were built near bodies of water. The population tends to have a larger working family population with relatively low wages and a large population below the poverty level (20%). The year-round population is expected to remain stable given current economic conditions and seasonal housing unit activity is projected to continue expanding at current rates.

5. The ***Aroostook Region*** has experienced modest change in recent decades. While the population actually decreased, the number of housing units increased by 11%. Most of the change occurred near service center communities or along road corridors. Approximately 40% of all new dwellings are near bodies of water. The population tends to be older, less likely to move often, and have a relatively low poverty level. The year-round population is projected to remain stable given current economic conditions, and seasonal housing unit activity is projected to expand modestly.

6. The ***Interior Region*** has experienced the least change in recent decades. The year-round population has decreased by 39%, but the number of housing units increased by 8%. More than 90% of the housing units in this region are used seasonally (as opposed to year-round, as defined by the US Census). Large landowners in the region have changed dramatically as the old Great Northern holdings were sold to more than 10 different landowners and conservation groups have invested in fee ownership and conservation easements on large tracts of land. The year-round population is projected to continue declining and seasonal housing unit development is projected to expand modestly.

7. The ***South/Islands Region*** is a motley collection of offshore islands and interior lands in Kennebec, Sagadahoc, Lincoln, Knox, and Hancock counties. This region accounts for less than 1% of the land area in LURC's jurisdiction. The year-round population decreased by 25% (from 147 residents to 111 residents) – mostly the result of declining island populations. Conversely, the number of housing units in this region increased by 19%. Two thirds of the housing units are seasonal units. The year-round population tends to be relatively young, single, and self-employed (the result of a large number of fishermen in the region). The year-round population is projected to continue declining while housing unit development is projected to increase modestly in the next decade.



Section 1.

Introduction

The Jurisdiction

The Land Use Regulation Commission's jurisdiction encompasses nearly 10.5 million acres of townships, plantations, and unorganized territories. This jurisdiction covers one-half of the entire state of Maine and is larger than Massachusetts and Connecticut combined.

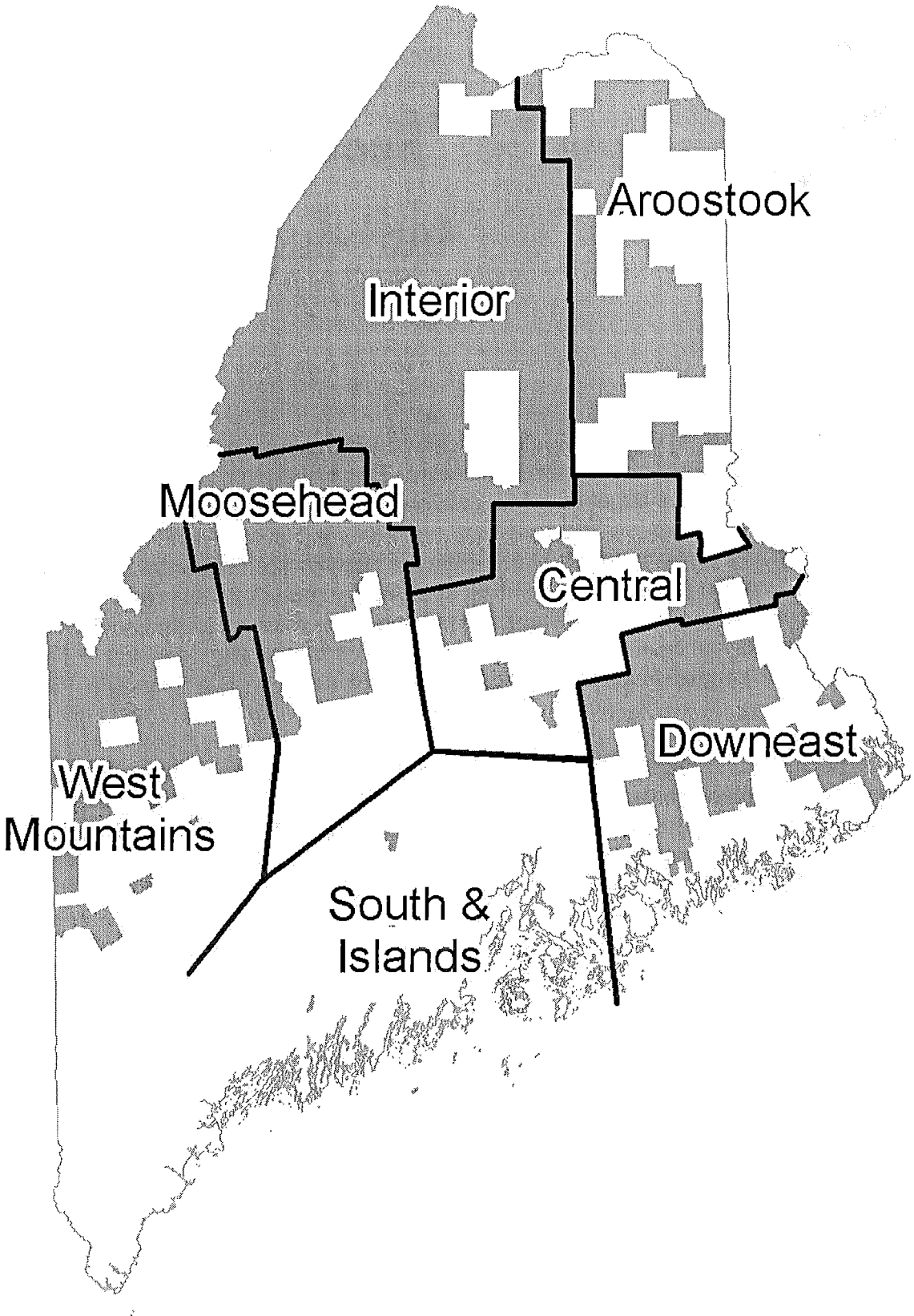
The jurisdiction arcs across northern Maine from the New Hampshire border in the western mountains to Canadian provinces in the north to the rocky shores of Downeast Maine. It also includes a motley collection of townships and plantations in southern Maine, such as island communities (e.g. Monhegan and Matinicus), uninhabited islands (e.g. Marshall and Metinic), and an assortment of inland communities (e.g. Unity Township, Argyle Township, Perkins Township).

LURC's jurisdiction is not static. Since LURC was created in the early 1970s, more than two dozen townships, plantations, and unorganized territories have moved into or out of the jurisdiction. Since 1990, three townships have de-organized and moved into LURC's jurisdiction and two townships have left LURC's jurisdiction. In addition, portions of several unorganized territories were annexed by townships outside of the jurisdiction.

For analytical uses, this report assesses jurisdiction-wide trends as well as the trends in seven regions. The boundaries of these regions are consistent with the *Land Use Regulation Commission Profile and Projections, 1993*.

Western Mountains 1,470,355 acres (14% of total) 2,635 residents in 2005
Includes lands from central Oxford County up through Franklin County. The southern boundary skirts Rumford, Farmington, and Skowhegan. The vacation centers of Bethel, Rangeley, and Carrabasset Valley are surrounded by the Western Mountains region.

Moosehead 1,220,995 acres 1,187 residents in 2005
Includes lands along Route 201 from Caratunk to Jackman as well as lands along Route 6 to Greenville. This region includes all of the islands and shores of Moosehead Lake.


Aroostook
Interior
Moosehead
Central
Downeast
West
Mountains
South &
Islands

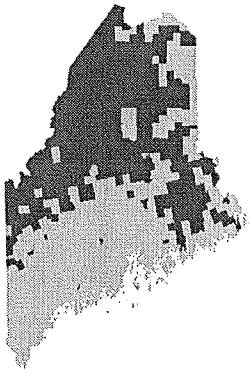
Central Region 1,082,000 acres (11% of total) 3,064 residents in 2005
Includes land from Elliotsville near Dover-Foxcroft to Millinocket, Lincoln, and the Canadian border to the east. The Interstate 95 corridor runs through the middle of this region.

Downeast Region 1,169,000 acres (11% of total) 2,146 residents in 2005
Includes lands in Hancock and Washington counties. This region is encompassed by Route 1 in the south and east, Route 6 in the north, and the Interstate 95 corridor in the west. Route 9 runs through the middle of the Downeast region.

Aroostook Region 1,145,000 acres (11% of total) 3,153 residents in 2005
Includes land in eastern Aroostook County that surrounds the population canters of Fort Kent, Presque Isle/Caribou, and Houlton.

Interior Region 4,163,000 acres (40% of total) 123 residents in 2005
Includes most of the Aroostook, Somerset, Piscataquis, and Penobscot county hinterlands. This region is uninterrupted forest from the boundaries of Baxter State Park (which is not in LURC's jurisdiction) to the town of Allagash in the north to the Canadian border in the west.

South & Islands 16,000 acres (<1% of total) 111 residents in 2005
Includes an assortment of islands and interior lands within Kennebec, Sagadahoc, Lincoln, Knox, and Hancock counties. Monhegan, Matinicus, and Criehaven are the largest communities in this region (and dominate the population and demographics statistics addressed below).



Section 2.

Changing People, Changing Demographics

2a. Introduction and Key Findings

Based on the data available for the LURC jurisdiction, several conclusions can be drawn.

1. ***In 2005, there were an estimated 12,419 year-round residents living in LURC's jurisdiction.*** Population growth rates within the jurisdiction vary from region to region – the Western Mountains and Moosehead regions grew the most. In general, areas inside LURC's jurisdiction are growing faster than surrounding communities outside of the jurisdiction. On peak weekends in the summer, the population within the jurisdiction is estimated to be between 35,000 and 45,000 people.

2. ***The population in the jurisdiction is projected to continue growing.*** By 2015, approximately 13,079 year-round residents will live in the jurisdiction.

3. ***The number of housing units in the jurisdiction is growing quickly.*** Since LURC was created, the number of units in the jurisdiction has approximately doubled. The Downeast, Western Mountains, and Moosehead regions accounted for 80% of all new housing units in the jurisdiction in the 1990s. Nearly 70% of all housing units in the jurisdiction are for seasonal use.

4. ***Year-round housing unit growth tends to occur near improved road corridors or adjacent to organized towns.*** Seasonal housing unit growth is more likely to occur deeper in LURC's jurisdiction near mountains, rivers, lakes, and ponds.

5. ***Housing unit characteristics depend on whether it is used year-round or seasonally.*** Seasonal units tend to be much smaller, more likely to lack full plumbing, and are overwhelmingly single-family units. A very large percentage of the households own their own home.

6. ***The population is growing older.*** The population under 35 decreased by 900 residents between 1990 to 2000. Meanwhile, the population between 35 and 64 grew by 1,252 and the population over 64 grew by 500 residents.

7. ***Education, income, and labor force participation levels are below the rest of the state.*** LURC households rely more heavily on self-employment, social security, and retirement income than residents in the state as a whole. 15% of households lived below the poverty level in 2000 (compared with 10% for the state). The labor force participation rate fell from 58% in 1990 to 55% in 2000 (statewide averaged 62% in 2000).

8. ***Residents are more likely to work in the natural resource industries (forestry, farming, and fishing) and construction*** than residents in the state as a whole. Approximately 9% of the labor force worked in natural resource-based occupations in 2000, which is an increase from 1990. Another 15% of the labor force worked in manufacturing and 6% worked in transportation industries, which often involve processing raw material. The education industry employed the amount of the LURC labor force (22%).

2b. Year-Round Population

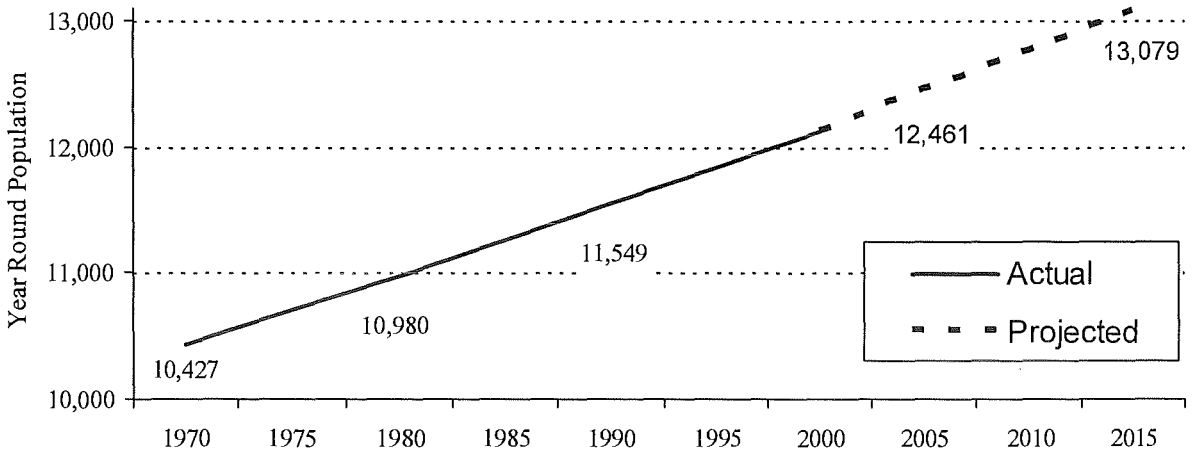
Year-round population changes can have significant impacts on a government's ability to provide facilities and services. It is important to understand where and how the population living in LURC's jurisdiction is changing so that adequate services can be provided for the future.

In 2005, an estimated 12,461 year-round residents lived within LURC's jurisdiction (Fig. 2-1). This is the culmination of 35 years of steady growth:

- 553 additional residents in the 1970s (55 net residents per year);
- 569 residents in the 1980s (57 net residents per year);
- 571 residents in the 1990s (57 net residents per year); and
- 341 residents in the first 5 years of the 2000s (68 net residents per year).

LURC's population growth has been stable while the rate of growth in the state as a whole has been slowing. LURC's growth rate has been 5% per decade (Fig. 2-2) between 1970 and 2000.

Figure 2-1: LURC Year Round Population, 1970 – 2015

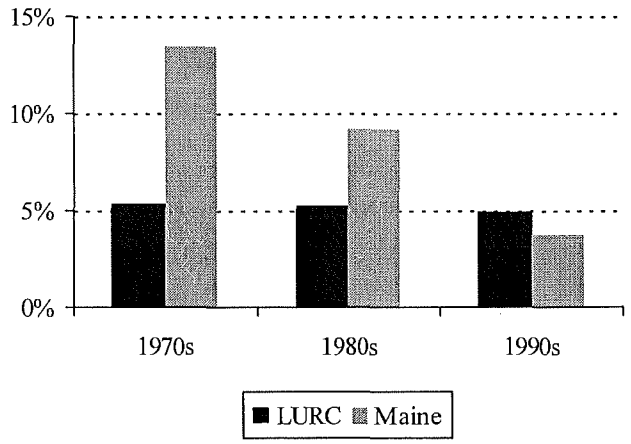


Source: US Census; Planning Decisions, Inc
Note: population numbers from decennial census have been adjusted to reflect 2005 LURC jurisdiction boundaries.

Statewide, the rate of growth has moderated each decade.

Population growth in LURC's regions varies widely. Between 1990 and 2000, the Western Mountains region grew by 17% (or 364 residents). This region alone accounts for 63% of the jurisdiction's net growth (Figure 2.03). The Moosehead and Downeast regions grew by 7% while the Central region grew by 3%. The Aroostook region decreased by less than 1% and the Interior and South/Islands regions decreased by between 20% and 25%, respectively[5].

Figure 2-2: Rate of Population Change, 1970 to 2000



Source: US Census

Despite these varying growth rates within the jurisdiction between 1990 and 2000, ***LURC's regions have had higher growth rates than bordering communities*** immediately outside of the jurisdiction.

- The Western Mountains region grew by 17% and the Moosehead region grew by 8%. The population of communities within 10 miles of these jurisdictions decreased by 2%.
- The Downeast region grew by 7%. Communities within 10 miles grew by 2% (most of which was in areas surrounding Ellsworth, Mount Desert Island, and Hancock County coastline).
- The Central region grew by 3%. Communities within 10 miles decreased by 6%.
- The Aroostook region decreased by less than 1% versus a decrease of 16% for

Figure 2-3: Year Round Population Change, 1990 to 2005 (estimated)

Region	1990	Percent Change '90 - '00	2000	(est.) Percent Change '00 - '05	(est.) 2005	(est.) Percent Change '90 - '05
Western Mountains	2,107	17%	2,471	8%	2,670	27%
Moosehead	1,042	7%	1,120	5%	1,173	13%
Downeast	1,944	7%	2,083	-1%	2,056	6%
Central	2,931	3%	3,030	5%	3,169	8%
Aroostook	3,175	-1%	3,147	-1%	3,122	-2%
South/Islands	147	-25%	117	6%	125	-15%
Interior	203	-20%	152	-4%	146	-28%
Total	11,549	5%	12,120	3%	12,461	8%

Note- 1990 population adjusted to account for changes in LURC jurisdiction since 1990.
Note- 2000 to 2005 population change reflects increased building permit activity in each region from 2000 to 2005.
Source: US Census; LURC Records, Planning Decisions, Inc.

[5] Note that the South & Islands and Interior populations are so small that it is difficult to draw general conclusions about these population changes.

neighboring communities. Much of this decrease has largely been the result of employment declines at Loring Air Force Base in the 1990s and challenges within the forest products industries.

- The Interior region decreased by 20% and neighboring communities decreased by a more modest 7%.

In 2000, ***nearly 70% of the jurisdiction's year-round population lives within 3 miles of the jurisdiction's boundaries***. Between 1990 and 2000, the percent of the population living within 3 miles of the jurisdiction's boundary grew faster than the rest of the jurisdiction's population. This suggests that most of LURC's recent growth has occurred as residents move from surrounding organized communities into the jurisdiction. This pattern of growth could have significant impacts on the services demanded by the jurisdiction's residents.

Between 2000 and 2005, the jurisdiction has continued to grow. An estimated 333 additional residents live in the jurisdiction in 2005 (Figure 2-3). Many of the regional trends that drove growth in the 1990s remain. The Western Mountains and Moosehead regions grew the most while the Central and Downeast regions grew modestly. The remaining regions were stagnant or lost year-round population. These estimates are based on the interplay of three principal variables observed in the jurisdiction's development trends and demographics (Figure 2-4).

- ***The number of households continues to grow.*** While seasonal units still account for the majority of the housing units in each region, the relative share of year-round units is increasing. We estimate that growth in the number of households (defined by the US Census as a housing unit occupied for year-round use) has accelerated with the strong real estate market in the 2000s (*for more information, refer to Section 4: Changing Patterns of Land Use*).

- ***Average household sizes continue to decrease.*** Increased life expectancies, increased divorce rates, and smaller families have continued a decades-long national trend towards smaller households. While this trend is slowly moderating, average household sizes are

Figure 2-4: Year-round Population, 2005 (estimate)

	Aroos-took	Central	Interior	Mount-ains	Down-east	Moose-head	South/ Islands	Total
Total year-round households, 2000	1,300	1,245	71	1,041	882	530	67	5,136
(+) estimated year-round household growth, 2000 to 2005	40	70	5	125	40	45	8	333
(=) estimated year-round households, 2005	1,340	1,315	76	1,166	922	575	75	5,469
(x) estimated number of persons per household, 2005	2.33	2.41	1.92	2.29	2.23	2.04	1.66	2.28
(=) estimated year-round population, 2005	3,122	3,169	146	2,670	2,056	1,173	125	12,461

Source: US Census; LURC Records, Planning Decisions, Inc.

projected to continue decreasing for the foreseeable future.

- ***Occupancy rates have remained stable.*** Because the number of housing units in LURC's jurisdiction is so large, small changes in occupancy rates can have large impacts on the estimated year-round population. However, the lack of data or anecdotal evidence suggesting otherwise leads us to estimate that the occupancy rate of housing units within the jurisdiction has remained at the levels observed in the 2000 US Census.

Were 1993 Projections Accurate?
From 1990 to 2000, year-round household growth was within the lower bounds of projections prepared in *Land Use Regulation Commission Profile and Projections, 1993*. The population growth was slower than projected because of a larger-than-expected decrease in the average number of residents living in each household. This trend is projected to continue in the foreseeable future.

2c. Year-Round Population Projections

The year-round population in LURC's jurisdiction is projected to continue growing. By 2015, the population is projected to grow by an additional 5% to 13,079 residents (Fig. 2.5).

Most of this growth is projected to occur in the Western Mountains, Moosehead, and Central regions. Growth will be higher in these regions because they are closer to stronger regional economies and have relatively easy access to some of the state's larger population centers. This makes it easier for families to live within the jurisdiction while living and working in nearby service centers. The Downeast region is projected to grow more modestly. The Aroostook region's population is projected to remain stable largely due to an aging population in the region and an uncertain regional economy. The Interior and South& Island regions are projected to lose population by 2015.

Figure 2.5: Year-round Population, 2015 (projected)

Aroos-took	Central	Interior	Mount-ains	Down-east	Moose-head	South/ Islands	Total
Estimated year-round housing units, 2005							
1,340	1,315	76	1,166	922	575	75	5,469
(+) estimated year-round household growth, 2005 to 2015							
84	147	11	263	84	95	16	700
(=) estimated year-round households, 2015							
1,424	1,462	87	1,429	1,006	670	91	6,168
(x) estimated number of persons per household, 2015							
2.17	2.24	1.79	2.13	2.07	1.90	1.54	2.12
(=) estimated year-round population, 2015							
3,086	3,277	154	3,042	2,086	1,270	142	13,079

Source: US Census; Planning Decisions, Inc.

In general, additional upward pressure on population growth created by the addition of new housing units and households is projected to be modestly offset by the continuing decline in the average number of persons in each household. Occupancy rates are projected to remain stable.

These projections are based on housing unit growth trends and demographic trends observed within each region of LURC's jurisdiction. Population projections done by other organizations and based on different variables corroborate these projections. These comparable projections are comparable at the county level.

More People, Yet Even More Houses?
In recent decades the number of housing units needed to house the same number of residents has dramatically increased. For example, if the 1980 average household size (2.89 persons per household) had remained stable, there would be 1,150 fewer year-round housing units in LURC's jurisdiction (today's average household size is 2.28). Because of this, it is important to remember that the housing unit growth will be even greater than population growth for the foreseeable future.

- The ***Maine State Planning Office*** projects that the counties with large areas within LURC's jurisdiction will continue to grow between 2005 and 2015. Aroostook, Franklin, Hancock, Oxford, Piscataquis, Penobscot, Somerset, and Washington counties are projected to grow by 4.3% between 2005 and 2015. Hancock (8.0%), Oxford (5.6%), Somerset (4.9%), and Franklin (4.9%) counties are projected to grow faster, while Aroostook (2.9%), Penobscot (3.3%), Piscataquis (1.5%), and Washington (3.2%) counties are projected to continue growing but at a slower rate. The State of Maine as a whole is projected to grow by a more rapid 5.5%[6].

- The ***Center for Business and Economic Research at the University of Southern Maine*** projects that the counties with large areas in LURC's jurisdiction are going to continue to grow at a moderate rate. The Hancock/Washington cluster is projected to increase by more than 8%. Kennebec/Somerset (4.1%), Penobscot/Piscataquis (2.3%), and Androscoggin/Franklin/Oxford (2.1%) are projected to grow more moderately. Aroostook County is projected to decline by 0.7%. The state as a whole is projected to increase by a rapid 6.1% in this model[7].

2d. Seasonal Population Estimates

The composition of this seasonal population can be examined as three separate components, each of which interacts with the region differently:

[6] The State Planning Office projections are based on a two-stage model that uses econometric projections for the entire state, and then allocates a community's relative share of that population based on trends observed in the 1990 and 2000 US Census. See http://www.state.me.us/spo/economics/economics/spreadsheetfiles/procedures.doc for more information.

[7] The Center for Business and Economic Research projections are based on projections of employment in various industries, from which populations projections are created by determining how many people are necessary to support that amount of economic activity. See http://usm.maine.edu/~csc/homepage/dmpremi_2000.htm for more information.

- ***Seasonal residents*** that live full-time in the jurisdiction for more than 4 months each year. These residents function as year-round residents while they are in the jurisdiction (for example having local bank accounts, shopping for goods, and using local services).
- ***Summer residents*** that live in the jurisdiction for an extended vacation, between one and three months. These residents are not as tied to the local community as the seasonal residents, but do seek a limited number of services from local businesses.
- ***Vacationers*** visit during weekends in summer and fall, or for week long stays in the summer. In addition, this population would stay in campgrounds, camps, hotels, and day trips. These residents demand a different type of services from the region.

In 2000, there were 12,844 seasonal housing units[8] within LURC's jurisdiction. On peak weekends during the summer, we estimate this seasonal population reaches between 35,000 and 45,000 people. This estimate is based on 80% of these seasonal housing units being occupied during peak summer weekends with between 3 and 4 persons in each unit. Additionally, the vacationer population is estimated to be approximately 8,000 visitors staying in other accommodations or visiting for the day during peak weekends in the summer.

2e. Housing Unit Growth

In 2000, there were an estimated 18,936 housing units within LURC's jurisdiction. Between 1970 and 2000, the number of housing units the jurisdiction doubled. This growth in housing units has outpaced the rate of growth in the state as a whole (64%).

The amount and location of housing unit growth varies by region. The Western Mountains, Moosehead, and Downeast regions grew by approximately 20% and accounted for more than 80% of the housing unit growth in the jurisdiction. The Interior and Aroostook regions grew the slowest (Fig. 2-6).

Figure 2-6: Housing Unit Change, 1990 to 2000

Region	1990	2000	Absolute Change '90 – '00	Percent Change '90 – '00
Western Mountains	3,278	3,973	695	21%
Moosehead	3,082	3,629	547	18%
Central	3,636	4,086	450	12%
Downeast	2,191	2,659	468	21%
Aroostook	2,582	2,857	275	11%
Interior	1,309	1,412	103	8%
South/Islands	244	290	46	19%
Total	16,322	18,906	2,584	16%

Note- 1990 housing units adjusted to account for changes in LURC jurisdiction since 1990.
Note- the 2000 Census figures have been adjusted in the Central and Downeast regions to more accurately reflect information in the Land Use Regulation Commission's building permit database.
Source: US Census; Planning Decisions, Inc.

Not surprisingly, a very high percentage of these housing units are for

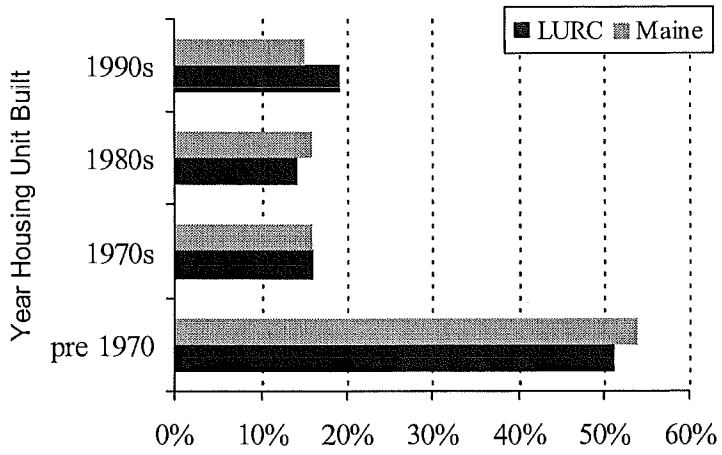
[8] According to the US Census, seasonal units are "vacant units used or intended for use only in certain seasons, for weekends, or other occasional use throughout the year. Seasonal units include those used for summer or winter sports or recreation, such as beach cottages and hunting cabins."

seasonal use[9]. Nearly 70% (or 12,844) of the housing units were designated as seasonal units by the US Census in 2000. Statewide, only 16% of the housing units are for seasonal use.

The occupancy rate of year-round housing units is relatively low. The occupancy rate defines how many of the year-round housing units are being used. (For example, a year-round housing unit that is not occupied might be for sale, rent, etc). In LURC's jurisdiction, only 86% of the year-round units were occupied, compared with the state's 95% occupancy rate. The Interior region had the lowest occupancy rate (66%) while the Central region had the highest rate (90%).

The characteristics of the jurisdiction's housing units vary widely. The typical occupied housing unit in the jurisdiction is a relatively new, single-family home, of modest size. However, the type of housing unit can vary depending on its age, and whether it is a seasonal or year-round housing unit.

Figure 2-7: Year Housing Unit Built



Source: US Census

- ***Housing units in the jurisdiction tend to be older*** (built before 1970) or relatively new (built after 1990) (Figs. 2-7 and 2-8). Approximately one-half of the housing units in the jurisdiction existed before 1970. In the 1990s, housing unit development in the Western Mountains, Moosehead, and Downeast regions outpaced the rate of housing unit development in Maine as a whole (20% to 15%). Prior to 1980, the Aroostook and Central regions grew the fastest.

- The ***housing units in the jurisdiction tend to be smaller, single-family housing units.*** In 2000, the average size of a housing unit in LURC's jurisdiction was 4.3 rooms (Fig. 2-8). Vacant housing units, most of which are used seasonally, tend to be much smaller than the year-round units. This is significantly smaller than the average for the state of Maine as a whole, which averaged 5.5 rooms per unit. The South/Islands region had the largest average housing unit size at 5.0 rooms per unit, while the Interior region averaged 3.2 rooms.

- ***Housing units are overwhelmingly single-family or mobile homes.*** Single family homes accounted for 91% of the units and mobile homes accounted for another 7% (Fig. 2-8). Only 1% of the units are in duplex or multi-unit structures. Only 2% of the units are in multi-family homes. Statewide, there is a higher percentage of mobile homes and multi-family units.

[9] According to the US Census, seasonal units are "vacant units used or intended for use only in certain seasons, for weekends, or other occasional use throughout the year. Seasonal units include those used for summer or winter sports or recreation, such as beach cottages and hunting cabins."

- ***The condition of housing units is relatively poor*** when compared with Maine. Most of these units are seasonal units and camps that aren't designed for year-round use. In the jurisdiction, 42% lacked complete bathroom facilities, compared with only 4% for the state as a whole. In the Interior region, 70% of the units lacked complete bathrooms.

- ***Year-round housing units are less expensive*** than the state as a whole. In 2000, 75% of the year-round housing units were valued at less than $100,000, and another 18% were between $100,000 and $200,000. In contrast, only 55% of the housing units in Maine are valued below $100,000 and 35% are between $100,000 and $200,000. In LURC's jurisdiction, the South/Islands and Western Mountains regions had the highest home values. The Aroostook and Central regions have the lowest home values in the jurisdiction.

Figure 2-8: Characteristics of Housing Units, Occupied versus Vacant*, 2000

	LURC Jurisdiction			
	Occupied Units	Vacant Units	Total	Maine
Year Unit Built				
1990s	18%	19%	19%	15%
1980s	16%	13%	14%	16%
1970s	19%	15%	16%	16%
pre 1970	47	53%	51%	54%
Size of Unit				
1 Room	1%	10%	8%	2%
2 Rooms	3%	17%	13%	4%
3 Rooms	7%	17%	15%	9%
4 Rooms	19%	20%	20%	19%
5 Rooms	28%	16%	20%	22%
6 Rooms	18%	9%	12%	18%
7 Rooms	12%	5%	7%	12%
8 Rooms	7%	2%	4%	8%
9 or More Rooms	5%	2%	3%	7%
Type of Unit				
Single-Family	76%	97%	91%	70%
Mobile	22%	1%	7%	10%
Multi-Family	2%	2%	2%	20%
Other	0%	1%	1%	0%

Source: US Census; Planning Decisions, Inc

* Due to the very large number of seasonal housing units in the jurisdiction, the Vacant classification can be used as a proxy for seasonal housing units (also includes a small number of unoccupied units for sale, rent, etc).

2f. Seasonal Housing Projections

From season to season, the population living in LURC's jurisdiction changes dramatically. Day-trippers, vacationers, summer residents, and 'snowbirds' are not counted in the US Census year-round population counts[10], but they do live, work, and play in the region and are an important component of the region's identity. Understanding the size and composition of this seasonal population is important for the provision of adequate facilities and services.

Approximately 70% of the housing units in the jurisdiction are seasonal housing units. Seasonal-home ownership will change in the foreseeable future due to several factors:

- ***Market for Seasonal Homes***. Nationally, interest in seasonal homes has reached historic levels as both investments and recreation opportunities. In addition, millions of Baby Boomers (those born between 1945 and 1965) are approaching their peak earning years and currently represent 41% of all vacation-home buyers[11]. The expansion of the seasonal home market will increase demand for seasonal homes.

- ***Price***. The cost of buying a second home in a rural and interior Maine is lower than buying a second home along the coast. In addition, many of the potential seasonal home buyers in Maine and in the Northeast United States have accumulated a large amount of unearned income as other real estate investments have appreciated over the past decade. This unearned income in conjunction with the relatively low cost of housing in LURC's jurisdiction will increase demand for seasonal homes.

- ***Access***. Transportation improvements are making rural interior areas more accessible than ever before. As access improves, the market for potential seasonal home owners will increase, thereby increasing demand for seasonal homes.

- ***Economic Strength***. Much of Maine's economy is in turmoil. Because nearly 70% of the seasonal homeowners in LURC's jurisdiction are from Maine, the strength of the economy can have significant influence on the demand for seasonal homes. Local economic strength can also affect demand. (For example, closing the Loring Air Force Base significantly changed the market for seasonal homes in the Aroostook region.) Economic strength is currently decreasing demand for seasonal homes modestly.

- ***Changing Vacation Patterns***. Nationally, interest in many rural activities associated with LURC's jurisdiction (hunting, hiking, camping, canoeing, etc) is stable or even decreasing. These trends include Maine residents and visitors. As interest in these activities decreases, the demand for seasonal housing in LURC's jurisdiction will decrease.

[10] The year-round population figures are based on data collected by the US Census. The US Census occurs on April 1st. Due to this census date, many seasonal residents and 'snowbirds' (those that live in northern areas in the summer and fall and southern areas in the winter and spring) are considered residents of other states.
[11] According to the *2005 National Association of Realtors Profile of Second-Home Buyers*.

Of these factors, the increasing market and relatively low price will continue to drive demand for seasonal housing in LURC's jurisdiction higher.

A review of the state's property tax records in 2005 indicates that the permanent residence of the majority of the jurisdiction's seasonal home owners is within the state of Maine. Approximately 70% of the owners of seasonal homes in the unorganized territory have their permanent residence in Maine. The proportion of seasonal homes in each region is strongly correlated to the relative proximity of the owner's permanent residence (Fig. 2-9).

Figure 2-9: Distribution of Seasonal Units by Permanent Residence of Owner

	Down-east	Aroos-took	Interior	South, Islands	West	Moose-head	Central	Total
Cumberland & York	7%	5%	11%	9%	18%	18%	9%	12%
Androscoggin & Oxford	2%	1%	4%	1%	13%	10%	2%	6%
Kennebec	3%	2%	4%	1%	5%	11%	3%	4%
Penobscot & Piscataquis	21%	5%	21%	7%	4%	7%	45%	17%
Midcoast	3%	1%	3%	30%	3%	8%	2%	4%
Hancock & Washington	30%	1%	2%	2%	1%	1%	2%	7%
Aroostook	0%	58%	20%	0%	0%	0%	2%	10%
Franklin, Waldo & Somerset	3%	2%	7%	3%	14%	18%	4%	8%
Out-of-State	31%	24%	27%	47%	40%	28%	30%	32%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Source: Maine Revenue Services PTM database; Planning Decisions, Inc

In general, statewide population projections suggest that the strongest rates of growth will be in the south and along the coast. Counties along the coast (York to Washington) are projected to grow faster than the state as a whole while counties to the north and west are projected to grow more slowly. Consequently, those regions in which a relatively large share of the seasonal homeowners from a county with healthy population and economic projections will likely have stronger seasonal housing unit demand:

- ***Moosehead region*** has a relatively large share of seasonal homeowners from Cumberland, York, and Midcoast counties, all of which are projected to grow between 5% and 12% between 2005 and 2015. This could translate into above-average demand for seasonal units. The characteristics of this population are very favorable to seasonal-home ownership (high incomes, good access, large Baby Boom population). Between

1990 and 2000, the US Census recorded a strong increase in seasonal housing units (14% increase in 10 years).

- ***Western Mountains region*** has a relatively large share of seasonal homeowners from Cumberland and York counties as well as from outside of Maine. These areas are projected to grow faster than the state as a whole, and could expect above average demand for seasonal units. The characteristics of this population are very favorable to seasonal-home ownership (high incomes, good access, large Baby Boom population). Between 1990 and 2000, the US Census recorded a significant increase in seasonal housing units in the Western Mountains (19% to 2,784 units). This rate of growth will likely continue.

- ***Downeast region*** has a very large share of seasonal homeowners from Hancock and Washington counties. Hancock County is projected to grow rapidly, but Washington County's growth will be more modest. This will translate into average demand for seasonal units. Incomes in these counties are not as high as the state as a whole, but access is very good.

- ***Aroostook and Interior*** regions have a large share of seasonal homeowners from Aroostook County. Aroostook County's population is projected to remain stable between 2005 and 2015, which could depress demand in these regions for seasonal housing units. The economic outlook for Aroostook County is not very strong, which will further dampen seasonal home demand in these regions. Between 1990 and 2000, the US Census recorded stagnant growth in the Aroostook region (4% to 1,708 in 2000) and a decline in the Interior (-24% to 1,027).

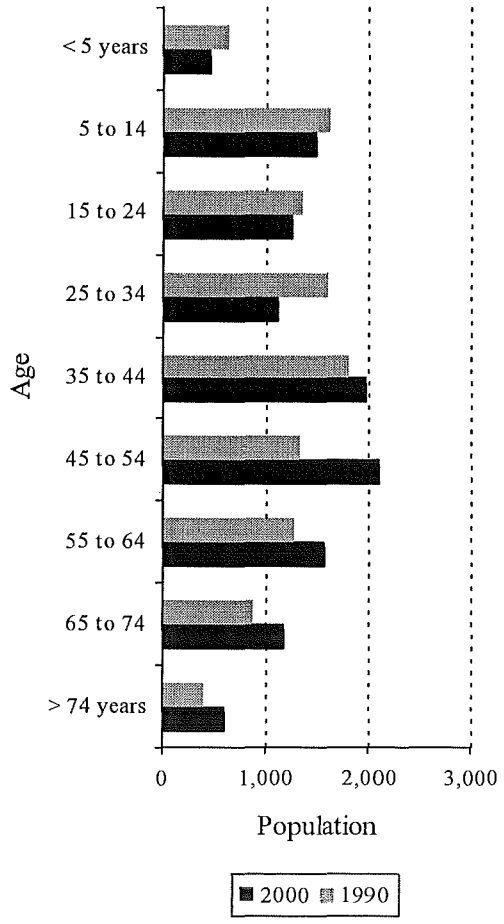
- ***Central region*** has a large share of seasonal homeowners from Penobscot and Piscataquis counties. Growth in these counties is projected to be modest. The characteristics of this population are favorable to seasonal home ownership (moderate incomes, very good access, large Baby Boom population). Recent building permit data from the Maine Land Use Regulation Commission suggests that year-round housing in this region is flourishing at the expense of seasonal housing. Between 1990 and 2000, the US Census recorded a significant increase in seasonal housing units in the Central region (5% to 2,367 units). This rate of growth will likely continue.

2g. Demographic Change

Not only are the population and housing units within LURC's jurisdiction growing, the demographic composition of the year-round population is changing. Residents are getting older, are better educated, and are increasingly likely to own their own homes. Understanding these demographic trends is important to providing adequate facilities and services to the region's residents.

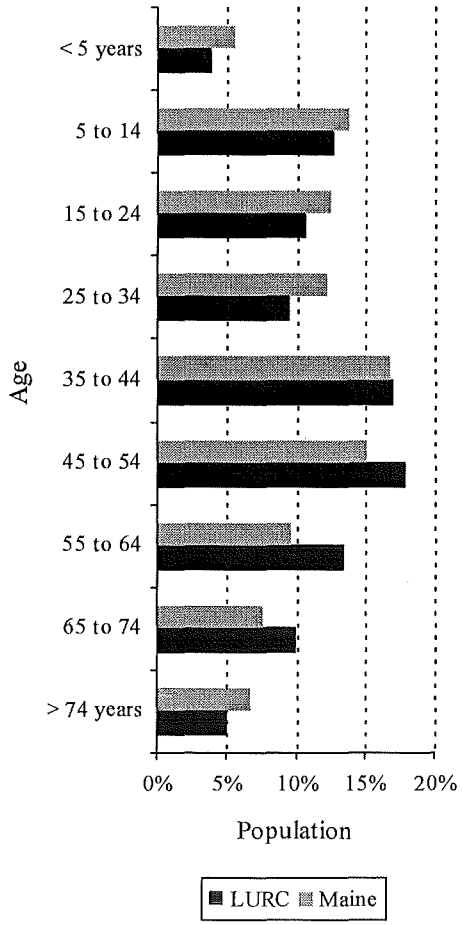
The population in LURC's jurisdiction is growing older. While this is not unique to LURC's jurisdiction (the aging baby boom generation, growing life expectancies, and smaller families are national trends), regional trends (loss of employment opportunities for younger workers, growing retiree population moving into the jurisdiction) are exacerbating the rate at which the population is aging (Figs. 2-10 and 2-12).

Figure 2.10: Age of Population in LURC Jurisdiction, 1990 - 2000



Source: US Census

Figure 2-11: Age of LURC Population, Age of Maine Population, 2000



Source: US Census

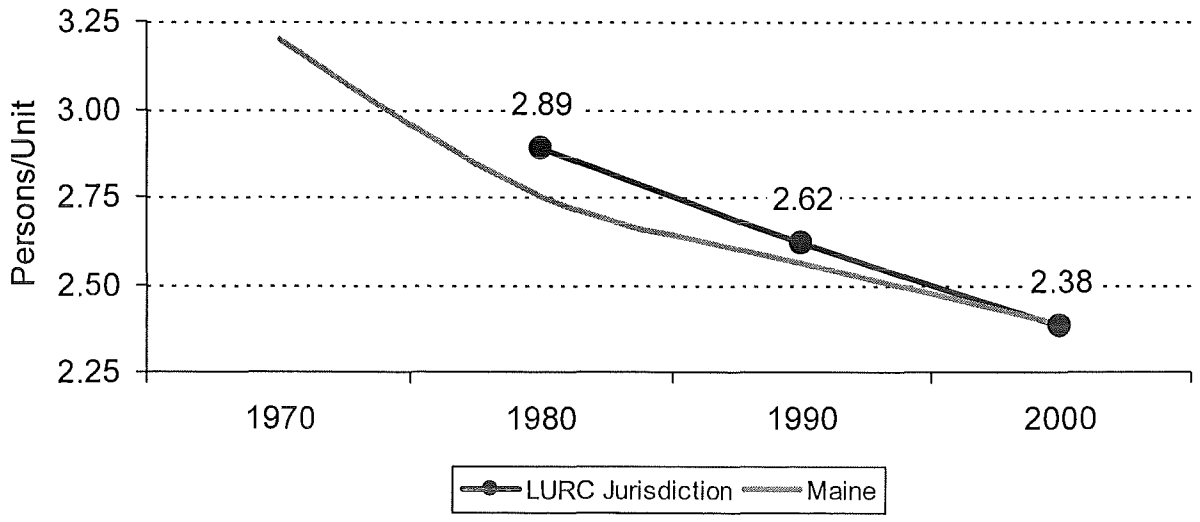
Figure 2-12: Age by Region, 2000								
	Aroos-took	Central	Interior	Mount-ains	Moose-head	Down-east	South/ Islands	Total LURC
<5	5%	4%	3%	4%	3%	6%	1%	5%
5 to 14	13%	13%	9%	12%	10%	14%	11%	13%
14 to 25	9%	12%	9%	10%	9%	11%	16%	11%
25 to 34	8%	10%	6%	10%	8%	11%	12%	9%
35 to 44	16%	18%	20%	17%	16%	17%	25%	17%
45 to 54	17%	18%	21%	17%	19%	18%	15%	18%
55 to 64	15%	11%	21%	15%	18%	10%	12%	13%
65 to 74	11%	9%	7%	11%	10%	9%	6%	10%
> 74	6%	5%	4%	4%	7%	5%	3%	5%
Source: US Census								

- The population under 35 years decreased from 48% in 1990 to 37% in 2000 (net decrease of 900 residents).
- The population between 35 and 64 years increased from 41% in 1990 to 48% in 2000 (net increase of 1,252 residents).
- The population over 64 years increased from 12% in 1990 to 15% in 2000 (net increase of 500 residents).

Compared with the state as a whole, LURC's population is relatively old. In 2000, 37% of LURC's population was under 35 years old, compared with 44% for the state as a whole. Those between 35 and 64 years account for 58% or LURC's population to the state's 49% (Fig. 2-11).

Households are getting smaller. In 2000, the average household in LURC's jurisdiction had 2.38 persons living in it (Fig. 2-13). This average household size has steadily decreased from 2.89 persons in 1980. The average household size has been modestly larger than the state, but

Figure 2-13: Average Household Size, 1970 to 2000



Note: 1970 data not available for LURC Jurisdiction
Source: US Census, Planning Decisions, Inc.

has recently fallen to average levels for the state. There are several variables that have combined to decrease the size of households.

- Life expectancies have increased across the country.
- Seniors are becoming more self-sufficient and more likely to live on their own.
- Families are having fewer children.
- Divorce between parents has decreased the average number of parents per household

As a result, it now requires more households (and housing units) to maintain a stable population. For example, if the average household size in LURC's jurisdiction remained at the 1980 level of 2.89 persons/unit, the demand for year-round housing would decrease by 900 households.

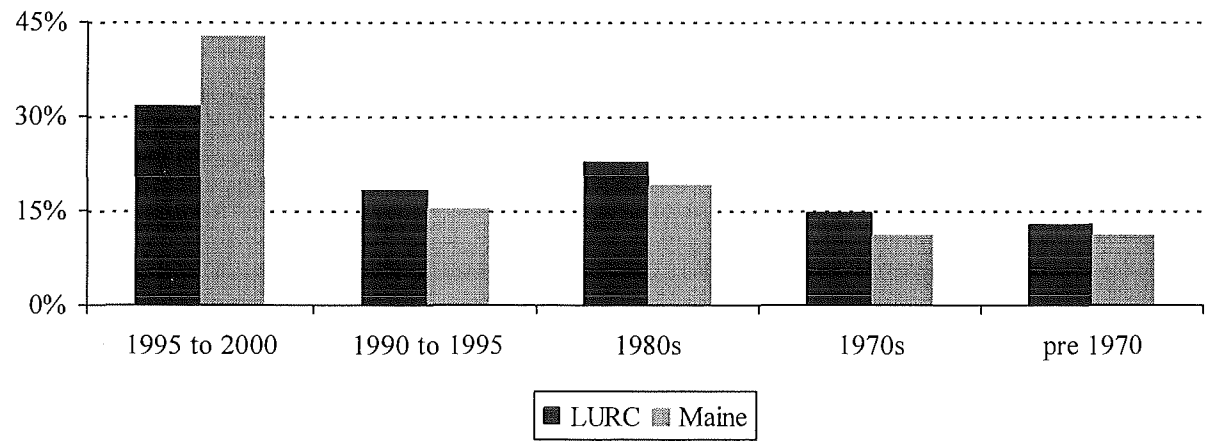
Decreases in average household size are projected to continue for the foreseeable future. Historically, the average household size has decreased by approximately 9% in each decade. This rate of decrease is projected to continue for the near future.

Households in LURC's jurisdiction are less likely to have moved recently than households in the state as a whole. Fewer than one-in-three households moved between 1995 and 2000 (Fig. 2-14). This is a relatively low rate – approximately 40% of the households in Maine moved within this 5 year period. Of those jurisdiction households that did move, approximately one-half moved within the same county, and one-fifth lived elsewhere in Maine. Approximately 20% of these households moved into the jurisdiction from elsewhere in the Northeast.

The population is becoming better educated. In 2000, nearly 80% of the jurisdiction's population over 25 years of age had at least a high school diploma, and 19% have a college degree. This is an increase from 1990 when only 66% had a high school diploma. In 1990, only 9% of the population had a college degree. These rates of post-secondary school education are generally lower than the state as a whole.

Home ownership rates in the LURC jurisdiction are very high. Households in LURC's jurisdiction are much more likely than residents of the state as a whole to own their home.

Figure 2-14: Occupied Housing Units by Year Household Moved In, 2000



Source: US Census

Whereas 72% of residents in Maine own their own homes, all of the regions have home ownership rates above 85%. The Central region has more than a 92% ownership rate. Home ownership rates increased modestly from 86% in 1990 to 87% in 2000.

Households do not earn as much as households in the state as a whole. Nearly 60% of households earned less than $35,000 in 2000 compared with 47% for the state. Approximately 8% earned more than $75,000, compared with 16% for the state.

The majority of household income comes from wages and salaries. This type of income accounts for two-thirds of all household income (Fig. 2-15). Self-employment income (11%), social security income (9%), and retirement income (7%) are the next three largest components of household income. Property income (interest, dividends, and rent), public assistance/supplemental security, and other account for the remaining 8% of the region's income.

LURC households rely more on self-employment, social security, and retirement income than residents of the state as a whole.

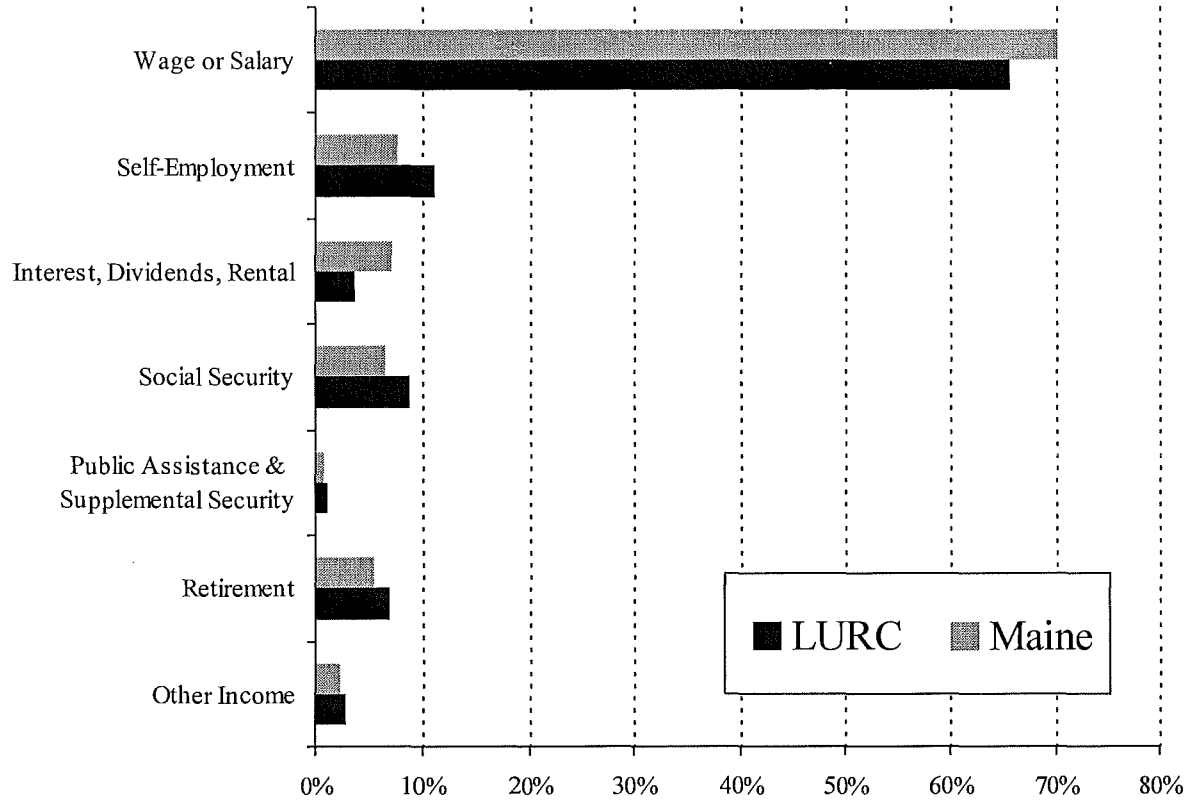
The regions within the jurisdiction have generally similar household income profiles, but there are some differences.

- The Moosehead and Interior regions rely more heavily on retirement income and property income (interest, dividends, and rent).
- The Central and Downeast regions rely more heavily on wages and salary income.
- The Aroostook, Central, and Moosehead regions rely more heavily on social security income.
- The Downeast region relies more heavily on self-employment income.
- The Southern/Islands region is very different from the rest of the jurisdiction. Largely due to the fishing communities of Matinicus, Monhegan, and Criehaven, self-employment income accounts for 46% of the region's income. Property income (interest, dividends, and rent) is also significantly higher than in the rest of the jurisdiction.

A large number of LURC households live below the poverty level. Approximately 15% of the households had incomes below the poverty level in 2000, compared with 10% for the state as a whole. In the Downeast and Moosehead regions, poverty levels were the highest (19% of households and 17% of households, respectively).

The population living in LURC's jurisdiction has a ***relatively low labor force participation rate.*** In 2000, 55% of the population over 15 years of age participated in the labor force (either employed or unemployed), compared with 62% for the state as a whole. This labor force participation rate was slightly lower in 2000 than it was in 1990 (58%).

Figure 2-15: Household Income by Type, 2000



Source: US Census

Wage/Salary Income: earnings received for work performed as an employee. Includes wages, salary, armed forces pay, commissions, tips, and cash bonuses.

Self-employment Income: includes farm and non-farm self-employment income, including income from one's own business, professional enterprise, or partnership.

Interest, Dividends, or Rent Income: includes interest on savings or bonds, dividends from stockholdings of membership in associations, income from rental of property to others, royalties, and periodic payments from an estate or trust fund.

Social Security Income: includes social security pensions and survivor benefits, permanent disability insurance payments made by the Social Security Administration, and railroad retirement insurance checks from the US Government.

Public Assistance and Supplemental Security Income: includes general assistance, Temporary Assistance to Needy Families (TANF), and Supplemental Security Income (via the Social Security Administration) for needy aged, blind, or disabled individuals.

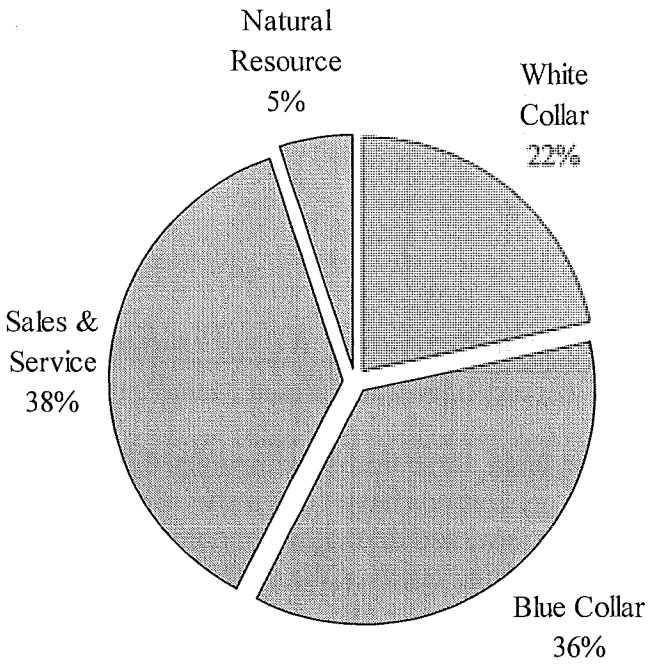
Retirement Income: includes retirement pensions, survivor benefits from a former employer, labor union, or federal, state, local government, or the US military, income from workers compensation, disability income, periodic receipts from an annuity or insurance, and regular income from IRA and KEOGH plans

Other Income: includes unemployment compensation, Veterans Administration payments, alimony and child support, contributions received periodically from people not living in the household, military family allotments, and other types of periodic income other than earnings.

By occupation, residents were more likely to work in traditional blue collar jobs in LURC's jurisdiction that the state as a whole. Managerial, sales, and service occupations accounted for 60% of the employed labor force, while natural resource, construction, and production/transportation/material moving occupations accounted for 40% of the labor force. In Maine, approximately 75% work in white collar occupations and 25% work in blue collar occupations. Only 5% of the population was directly involved in natural resource based jobs (forestry, fishing, and farming), a decline from the 7% level in 1990.

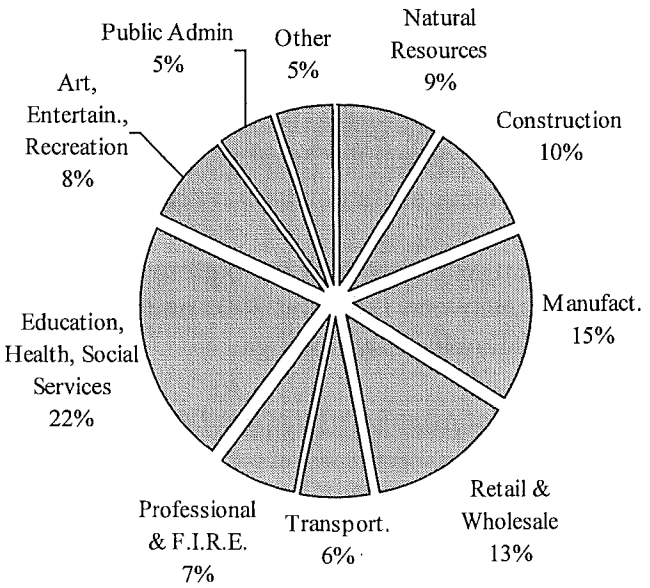
By industry, residents are more likely to work in the natural resource and construction industries than residents in the state as a whole. In 2000, approximately 9% of the labor force worked in natural resource-based industries compared with 3% for the state as a whole. This is an increase from 1990, when only 7% of the residents worked in natural resource industries. Compared with the state as a whole, LURC residents are more likely to work in the entertainment and recreation industry. Nearly one-quarter of jurisdiction residents work in the education, health, and social services. The manufacturing industry accounts for 15% of the jobs held by LURC residents.

Figure 2-16: Workers by Occupation, 2000

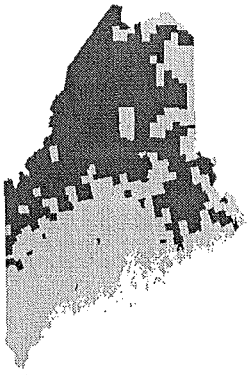


Source: 2000 US Census

Figure 2-17: Workers by Industry, 2000



Source: 2000 US Census



Section 3.

Changing Patterns of Land Ownership

3a. Introduction and Key Findings

The last 20 years have transformed Maine's north woods.

On the one hand, large timber companies that were the mainstay of the region's economy and culture for generations have been buffeted by a glut of worldwide forest products, changes in corporate tax law, and dramatic technology and market changes. These forces have altered the public face owning much of the state's north woods.

At the same time, the number of recreation and conservation demands on the region's forests have increased. Demand for year-round housing along the road corridors and seasonal housing around lakes and ponds continues to grow. Conservation efforts in Maine's interior have attained national recognition.

As a result, the pattern of ownership in Maine's northern forest is changing. There are more owners, and these owners own smaller pieces of land. The interests of the land owners are changing. And the landscape is becoming more fragmented.

Some of these changes will affect public access to private lands, threaten natural resources, and increase the demand for infrastructure and services. At the same time, some of these changes have been more surficial and have not affected how the north woods function.

This report examines how the pattern of landownership has changed in Maine's Unorganized Territory between 1985 and 2005 and discusses how these changes could affect rural areas and has the following key findings:

1. ***The total number of net land accounts[12] has increased by 3,175, or 31%*** since 1985. Net new land accounts equal new land accounts plus the change in leaseholds. This is a more accurate depiction of how the ownership changes have affected the landscape.

[12] A land account is a parcel of land or two or more contiguous parcels of land owned by the same individual or entity. Maine Revenue Services aggregates contiguous parcels of land into a single land account to facilitate tax assessing and collections.

a. ***More than 4,222 new land accounts*** were created in the study area between 1985 and 2005, an increase of 41%. By 2005 there were 14,529 total land accounts. The Moosehead Region accounted for the largest growth in the study area.

b. ***The number of leaseholds decreased by 1,047***, or 19%. By 2005 there were a total of 4,346 leaseholds in the study area. Most of these leaseholds were turned into new land accounts as the large landowners sold the leased land to the leaseholder.

2. Almost all of this growth was in land accounts smaller than 200 acres. The growth that has occurred on the fringe – those MCDs that abut communities outside of the jurisdiction – of the study area is largely year-round residents. The growth that has occurred on interior lakes and rivers is largely seasonal residents.

3. The Moosehead Region has grown the quickest. The Western Mountains, Central, and Downeast regions have grown at a moderate rate, while the Interior and Aroostook regions have only grown modestly.

4. ***Large land ownership is becoming more fragmented.*** While the number of large land accounts – those 200 acres or larger – is unchanged, industrial timberlands have been decreasing while nonprofit conservation, governments, and tribal lands have been increasing.

5. ***Large land ownerships are becoming more complex.*** In the past, industrial timber companies owned large tracts of land and operated mills that supported many rural communities. Today, land holdings are more likely to be owned by a dizzying array of subsidiaries, corporate cousins, timber investment management organizations, real estate investment trusts, utilities, nonprofit organizations, etc. Each type of owner has a different interest in owning the land. However, most of these large landowners still actively manage and harvest their timber holdings.

6. ***Traditional public land access*** to resources could be affected by changing land ownerships. Many of the new large landowners have different interests in their land. These different interests create a situation where different types of access would be preserved depending on the needs of the landowner.

7. ***Natural resources*** could be affected if the pattern of ownership continues to be fragmented.

8. The demand for ***services could increase*** as the pattern of ownership shifts, especially as the number of small landowners in the study area continues to grow. Homeowners tend to demand more services (school, public safety, etc) than owners of large timberlands.

For this analysis, it is important to note that the Unorganized Territories have no local government authority, and are administered by various state agencies. The Property Tax Division of the Maine Revenue Service maintains property tax records for the region. The foundation of this study is a comparison between the property tax records from 1985 and those from 2005.

The study area includes most of Maine's Unorganized Territories (UT). Because the UT is not static, this study excludes those MCDs that have entered or left the UT between 1985 and 205. For example, Madrid, Benedicta, E Township, Prentiss, Greenfield, and Centerville all have deorganized in the last 20 years. In addition, parts of MCDs have been annexed by organized townships while some MCDs have become organized. All of the MCDs that have changed their status in the UT have been excluded from this analysis. Details of these adjustments are included in the Appendix.

Of Land Accounts and Leases

- A ***land account*** is a parcel of land or two or more contiguous parcels of land owned by the same individual or entity.

- A ***lease*** is a building that sits on land that has been leased from a different landowner. Lease-holders typically own the right to use a piece of land, but that does not rest on its own parcel of land.

- A ***large land account*** in this study is any land account that is 200 acres or greater.

It is important to note that this study area also excludes all of the organized towns and plantations that are within LURC's jurisdiction. The Property Tax Division does not maintain the tax records for these communities. Nearly forty towns and plantations are in the jurisdiction.

Many of these communities, especially in the Western Mountains region, have experienced a lot of growth in the last 20 years. However, because the data necessary to include these communities in this study is not available, the results of this study should applied with caution.

3b. New Account Activity

The number of land accounts in the study area has increased. In 2005, there were 14,529 land accounts in the study area (Fig. 3-1). In 1985 there were 10,307 land accounts. This represents an increase of more than 40% (or 4,222 land accounts).

Figure 3-1: Ownership Change in Study Area, 1985 to 2005

	1985	2005	Change	% Change
Western Mountains	2,716	3,420	704	26%
Moosehead	1,805	3,486	1,681	93%
Central	1,843	2,448	605	33%
Downeast	1,867	2,480	613	33%
Aroostook	1,429	1,784	365	25%
Interior	647	911	264	41%
Total	**10,307**	**14,529**	**4,222**	**41%**

Source: Maine Revenue Service; Planning Decisions, Inc.

Most of the new land account activity has occurred in the Moosehead region. The Aroostook and Interior regions have relatively little new land account activity.

At the same time the number of leases in the study area has decreased dramatically. In 2005, there were 4,346 leaseholds in the study area. This is a decrease of 1,047 leaseholds over the past 20 years (or 19%).

Most of the decline in leaseholds has occurred in the Moosehead and Central regions. Only the Interior region had more leaseholds in 2005 than in 1985.

Traditionally, leaseholds were given or sold by large landowners to individuals who then built a seasonal camp. As large industrial tracts of timberland have changed hands in the past 20 years, the new landowners have sought to sell the lease to the individual that owns the seasonal camp.

Figure 3-2: Leasehold Change in Study Area, 1985 to 2005

	Leases, 1985	Leases, 2005	Total Change	Percent Change
Western Mountains	473	447	-26	-6%
Moosehead	750	318	-432	-58%
Central	1,641	1,340	-301	-18%
Downeast	942	792	-150	-16%
Aroostook	879	694	-185	-21%
Interior	708	755	47	7%
Total	**5,393**	**4,346**	**-1,047**	**-19%**

Source: Maine Revenue Service, Planning Decisions, Inc

This activity creates a new land account (the owner of the seasonal camp now owns a piece of land), and while the new owner is more likely to make improvements to their home, the underlying use of the land has not changed. In effect, declining leaseholds inflates the amount of new land account activity occurring in the study area.

Adjusting new land accounts by the decline in leaseholds suggests that net new land accounts increased by 3,175 (or 31%) (Fig 3-3). Examining net new accounts creates a more accurate depiction of how the change in land accounts are affecting the landscape.

The pattern of net new account change in the study area mirrors the pattern of new land account activity. The Moosehead region experienced the most change while other regions' change was more moderate.

Figure 3-3: Net Account Change in Study Area, 1985 to 2005

	Land Accounts, 1985	New Land Accounts, 85 - 05	New Leases, 85 - 05	Net Land Account Change	% Change
Western Mountains	2,716	704	-26	678	25%
Moosehead	1,805	1,681	-432	1,249	69%
Central	1,843	605	-301	304	16%
Downeast	1,867	613	-150	463	25%
Aroostook	1,429	365	-185	180	13%
Interior	647	264	47	311	48%
Total	**10,307**	**4,222**	**-1,047**	**3,175**	**31%**

Source: Maine Revenue Service, Planning Decisions, Inc.

3c. Types of Ownership Change

Large land accounts, those whose parcels total at least 200 acres, dominate the study area. Collectively, these large land accounts account for 9% of the accounts, yet they own 98% of all the land in the study area.

In 2005, the study area had 1,346 large land accounts. This is relatively unchanged from 1985 when there were 1,350 large accounts.

Who owns these 1,346 large land accounts has changed, however. This study classifies landowners into one of nine types of owner:

- Industrial Timberland owners own at least 10,000 acres of land.
- Government owners are grouped into federal, state, and local entities.
- Nonprofit Conservation owners are land trusts and private nature preserves.
- Tribal Lands include all lands owned by Native Americans.
- Utility Companies include dams, electricity power lines, and windpower farms.
- Small Timberland owners include those with more than 2,500 acres but less than 10,000 acres, or those with land less than 2,500 acres and with land enrolled in the Tree Growth Tax Program.
- Industrial owners include companies that might harvest timber, but whose principal business is in another industry sector (for example, blueberry farming, manufacturing, etc).
- Private owners include those with less than 2,500 acres whose land is not enrolled in the Tree Growth Tax Program.
- Nonprofit owners include churches and other similar institutions.

Industrial Timberland owners (IT) represent 82% of the acres in large land accounts (Table 16). There were 26 IT owners in Maine that held at least 50,000 acres in the study area in 2005. In 1985, these owners represented 88% of the large land accounts in the study area, a decline of approximately 450,000 acres.

Nonprofit Conservation owners (NC) represent approximately 3% of the acres in large land accounts. NC owners increased their holdings from 57,000 acres in 1985 (largely held by the Coburn Land Trust) to 300,000 acres in 2005 (largely held by The Nature Conservancy). NC owners represented the largest rate of increase in the entire study area over the past 20 years.

The state of Maine is the second largest landowner group in the study area. The state owns 667,867 acres. In the last 20 years, the State of Maine has increased its ownership by approximately 50,000 acres, or 8%.

Tribal lands, utility companies, local governments increased their ownerships in the last 20 years by approximately 50,000 acres each.

Private owners and Small Timberland owners both decreased the number of acres in their ownerships in the last 20 years by approximately 3,000 acres. These land accounts could be the most likely to be sold off and divided into small land accounts for new land account activity. As

these accounts are broken into small accounts, they would disappear below the 200 acre threshold of this portion of the study.

Figure 3-16: Ownership Change in Study Area, 1985 to 2005				
Owner Classification	Acres, 1985	Acres, 2005	Change (acres)	Percent Change
Industrial Timberland	7,655,889	7,209,204	-446,685	-6%
Government, State	616,651	667,867	51,216	8%
Nonprofit Conserva.	57,013	297,986	240,973	423%
Tribal Lands	140,951	185,460	44,509	32%
Utility Companies	51,954	108,032	56,078	108%
Small Timberland	95,748	95,257	-491	-1%
Government, Federal	35,238	63,654	28,416	81%
Government, Local	1,104	50,052	48,948	4434%
Industrial	50,919	49,743	-1,176	-2%
Private	21,158	18,684	-2,474	-12%
Nonprofit	875	1,286	411	47%
TOTAL	8,727,500	8,747,224	19,724	0%
Source: Maine Revenue Service				

3d. Implications of Changing Land Ownerships

Large ownerships in Maine's north woods are becoming more complex, more fragmented, and more diverse. These changing ownership patterns in Maine's north woods could affect access, natural resources, and the demand for services.

Traditional access to resources in the north woods could be affected by the changes in land ownership. Two decades ago the large landowners were very public companies that were integrated into the community. Today, many of these large landowners have evolved into a much more complex ownership pattern involving subsidiaries, corporate cousins, and absentee landlords. These companies tend to have a lower public profile and not be as integrated in the community. This lower public profile could allow landowners to decrease the amount of access to the resources in the north woods.

The greater diversity of the large landowners suggests that access to these resources will change. For example, nonprofit conservation groups have increased their presence in the north woods dramatically. Not only do these groups own large tracts of land, many of the remaining tracts of land are covered by easement restrictions that will permit traditional access to these resources for the future. Government ownership and tribal ownerships have increased. These groups own land for different purposes, and these purposes allow different levels of traditional access in the future.

Despite this changing ownership pattern, activity in the study area will likely resemble today for the foreseeable future. The mainstay of the forest's productive use – as a working forest – has not yet been significantly altered by the changing ownership patterns. The organizations that have purchased large tracts of land still harvest timber to help finance their purchases and support the local economy.

Natural resources could be affected if the pattern of ownership continues to be fragmented. In areas closer to transportation corridors or service centers the continued creation of new land accounts will be for year-round housing. This growth will tend to occur in areas that are already developed and have fragmented ownership patterns. This type of growth reflects the same patterns of growth that surround large cities – easy access and low housing costs, along with a host of other reasons, have allowed people to move themselves further and further into the hinterland.

Concurrently, interior lakes, ponds, and rivers will likely continue to experience development pressure so long as the demand for seasonal housing remains high. While these housing units are used much less often that the year-round units being built in the UT, these housing units tend to be built closer to lakes, ponds, and rivers and could therefore have a larger impact on the region's natural resources.

The demand for services will increase as the pattern of ownership continues to shift. The largest increase in demand comes from the construction of homes and camps in the jurisdiction. The type of services demanded by these homeowners will differ depending on how the home is used.

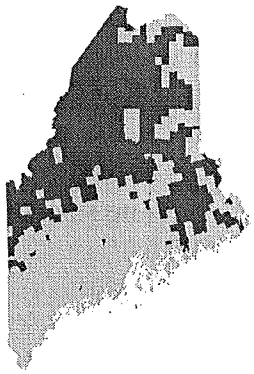
Why is the pattern of ownership changing?

Landowners buy and sell land in the study area for different reasons, including:

- Banks no longer require forest product companies to hold land as a guarantee that their mills will have a steady flow of raw material.
- Changes in the corporate tax law decreased the incentive for a mill to own land.
- Selling large tracts of land was a way to raise capital to better compete in the global market.
- A loophole in the real estate transfer tax allowed many large companies to transfer their assets to other companies without paying sales tax. That loophole has since been closed.
- Individuals continue to be attracted to the beauty and recreation opportunities in the study area. The strong real estate market has continued to fuel demand for waterfront camps
- Waterfront land in the study area is growing in value, and much of the waterfront land cannot be harvested by timber companies as intensely as backland anyway due to zoning regulations.
- The spreading pattern of residential development continues along the fringe of the study area as more year-round residents move from service centers (Rumford, Farmington, Skowhegan, etc) into the edges of the UT.
- Nonprofit conservation groups perceive a growing threat to the north woods and have raised awareness.

For example, the year-round homes being built along the transportation corridors and closer to the service centers will increase the demand on fire and rescue and education services. The seasonal units also demand municipal services, but these tend to be for more limited times in the summer and fall.

The demand for services in the UT has increased in recent years. However, the mil rate has not increased recently because of the spiraling valuations of waterfront land. These higher valuations have so far been enough to cover the increasing cost of the new services being provided to homeowners. If the demand for services continues to increase or valuations moderate, then the UT's mil rate could increase.



Section 4.

Changing Pattern of Land Use

4a. Introduction and Key Findings

This report describes the changing patterns of development in the Land Use Regulation Commission's jurisdiction since the Commission was established in 1971. It describes residential and commercial development, as well as subdivision activity within the jurisdiction.[13]

This report has been prepared as part of a series of documents examining the trends that are affecting LURC's jurisdiction, including changes in the jurisdiction's population/demographics, changes in the local and regional economy, and changes in the pattern of land ownership.

This report expands on *Trends in New Residential Development in Maine's Unorganized Areas: Amount and Location of New Residences Since 1971 by Region and Minor Civil Division* by Land and Water Associates. This report was prepared in 1993 to help the Land Use Regulation Commission's effort to update its Comprehensive Plan Use Plan.

The following are the key findings identified in this report:

1. ***Since 1972, the number of residential units in the jurisdiction has doubled.*** 8,700 permits for new residential dwellings were issued between 1972 and 2005 (July).

2. ***The demand for new dwellings follows regional economic and real estate patterns.*** Development activity has been depressed during recessions and increased during real estate bubbles. During the late 1980s, nearly 500 permits per year were being issued. Since 2000, approximately 300 permits per year have been issued.

[13] Note – the figures in this section come from two different analyses.

- 100% count: The figures for total development by MCD and for the classification of seasonal and year-round units are based on a 100% count of all the permits issued by LURC between 1972 and July of 2005.
- GIS analysis: The figures for proximity to roads and proximity to water were determined using a GIS analysis of the building permit database. The building permits were linked to LURC's GIS parcel map for spatial analysis. Approximately 80% of the building permits were able to be analyzed. The remaining 20% were excluded for a variety of reasons, including data input errors, an annual parcel map update schedule, and data recording errors. In addition, parcels from the South and Islands Region were not included in this analysis because their development issues are intrinsically different from the rest of LURC's jurisdiction.

3. ***Demand for new dwellings is concentrated in a small number of MCDs.*** Nineteen MCDs (4% of all MCDs) accounted for 40% of all the building permits issued. These MCDs tend to be close to regional service centers, along major road corridors, and/or adjacent to large lakes and ponds.

4. ***The Western Mountains and Moosehead Regions together account for one-half of the residential development in the jurisdiction.***

5. ***Access to a road is important characteristic for new development.*** Nearly 40% of new development is located near a high speed, long distance road in the jurisdiction (numbered routes and highways). Another one-third is located near local improved roads (paved roads and streets).

6. ***Nearly one-half of the new dwellings are on parcels within 500' of water bodies.*** Development associated with water bodies peaked at 50% in the 1980s and has been slowly decreasing since then.

14

7. ***Only three in every ten of the dwelling built since 2000 have seasonal characteristics.*** In the 1980s, more than one-half of the units had seasonal characteristics. In the 2000s, this had decreased to 31%. (Note that this decrease is likely overstated because this analysis examines the dwelling's physical characteristics and not the dwelling is actually used.

8. ***Nearly 250 permits for new commercial activity were issued between 1992 and 2005.*** Camps/lodging and recreation were more likely to be closer to bodies of water and other commercial activities were more likely to be associated with roads[15].

9. ***Subdivision activity is more likely to occur along a water body*** than development as a whole. Of the 301 new subdivisions and major subdivision expansions in the jurisdiction[16], 58% were associated with a water body (compared with 46% of general building permits).

4b. Residential Development Patterns of Land Use

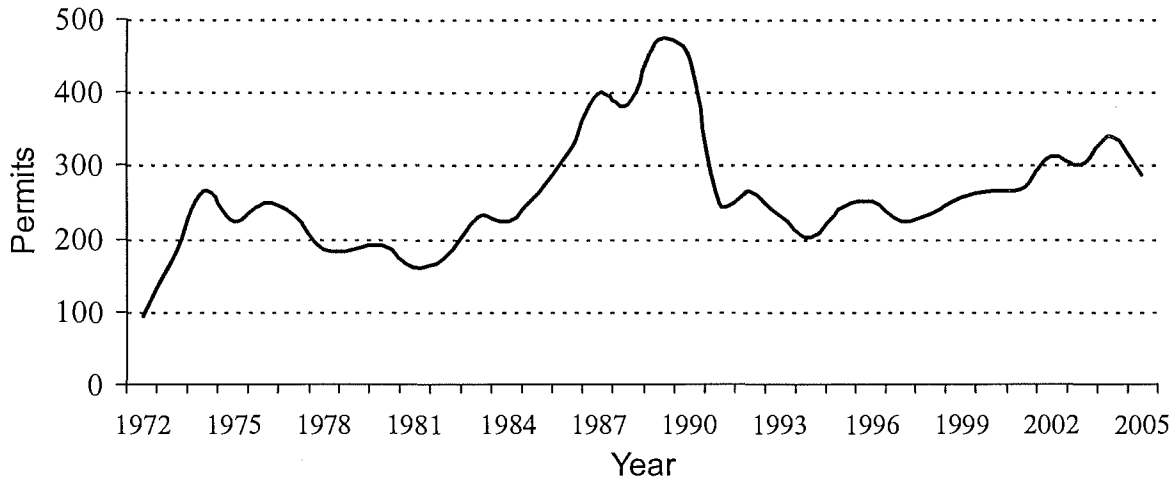
Residential dwellings in LURC's jurisdiction are built for a wide range of uses. Some are year-round homes. Others are for seasonal use. Some are deep in the north woods, while others are

[14] Each building permit includes a description of the project. This analysis categorizes these descriptions into those homes with seasonal characteristics (intended for use for part of the year) and those homes with year-round characteristics (intended for use year-round). Year-round characteristics include those described as year-round homes as well as those with structured foundations, indoor plumbing, insulation, etc. Seasonal characteristics include those described as seasonal homes as well as camps, cottages, cabins, etc. This source of information is not exact, but it can be used to draw general conclusions about the characteristics of the new structure being built. The US Census is a more accurate source for whether a home is being used year-round or seasonally.

[15] This continues trends that were observed between 1971 and 1991 in LURC's jurisdiction in *New Development in the Wildlands* (issued in 1993 for LURC by Land and Water Associates).

[16] A new subdivision or major subdivision expansion includes only initial subdivision approvals and major expansions to existing subdivisions. This analysis does not include minor subdivision permits (shifting lot lines of existing lots, minor expansions of existing subdivisions, and minor modifications to existing subdivisions) because the large number of these minor subdivision permits would skew the data analysis.

Figure 4-1: Building Permits Issued in Jurisdiction, 1972 - 2005



Source: LURC Records, Planning Decisions, Inc

just a stone's throw from regional service centers. Understanding the trends affecting residential development is important to help protect the principal values of the jurisdiction.

The Land Use Regulation Commission ***issued approximately 8,700 building permits for new residential dwelling units*** between 1972 and 2005. Two surveys of existing housing units in the early 1970s identified between 8,000 housing units (Maine Department of Transportation) and 10,000 housing units (US Census). The 8,700 new permits issued since the early 1970s have approximately doubled the number of dwelling units in the jurisdiction.

The demand for new housing follows regional economic and real estate trends. Recessions in the late 1970s, early 1980s, and early 1990s depressed permit activity. Strong real estate markets in the late 1980s and early 2000s increased permit activity. Since 2000, demand for new housing has averaged 300 building permits per year.

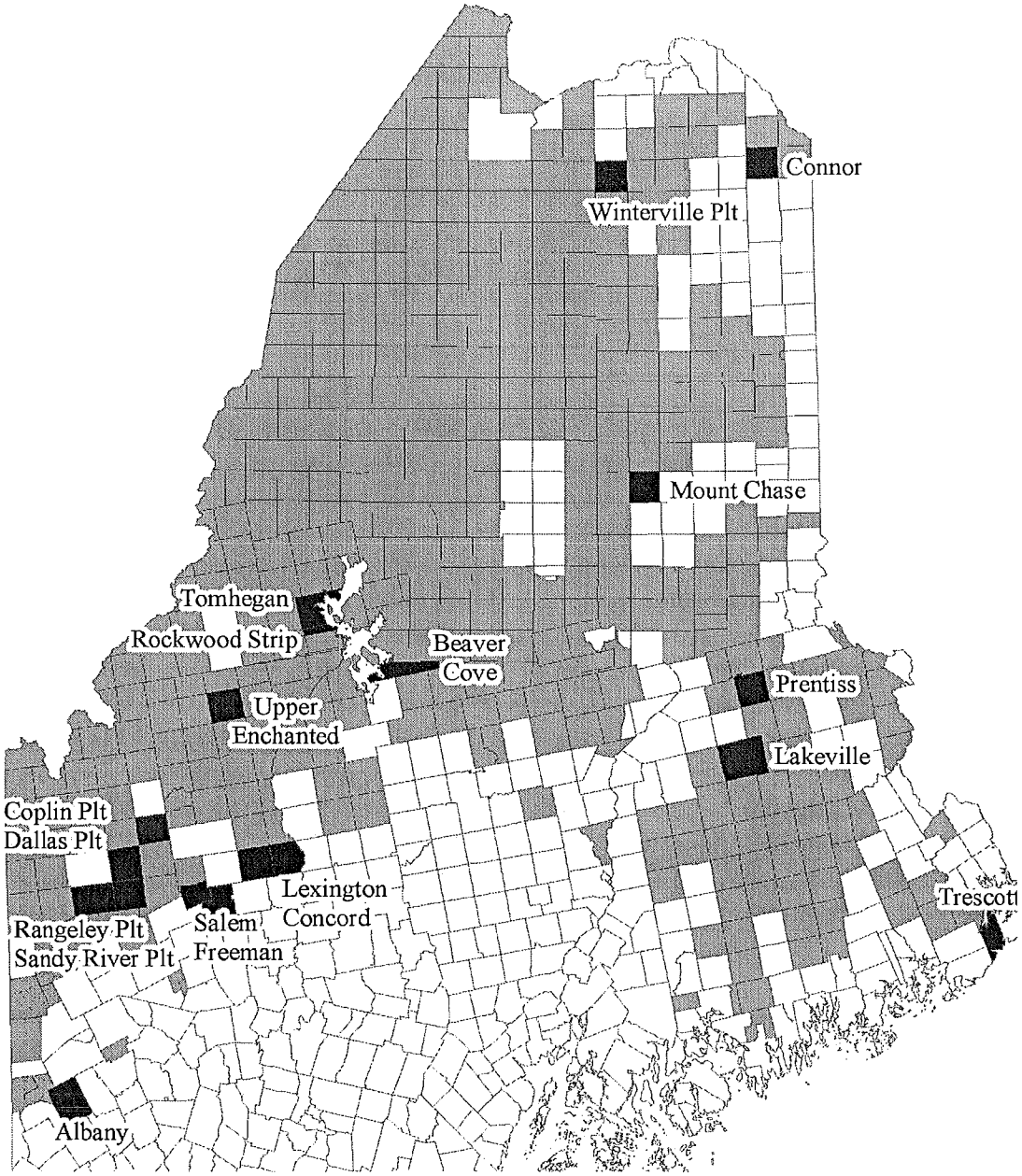
Demand for new residential development has been concentrated in a small number of communities. Between 1972 and 2005, approximately 40% of the permits were issued in only 4% of the jurisdiction's communities (Fig. 4-2). Nine Minor Civil Divisions (MCDs) had more than 150 permits each, and another 10 MCDs had between 100 and 149 permits each. While these 19 fast-growing MCDs were spread throughout the jurisdiction, they tend to be close to service centers and transportation corridors (Fig. 4-3).

Figure 4-2. Number of Permits Issued by MCD, '72 to '05

	Jurisdiction			
	MCDs		Permits Issued	
	#	%	#	%
More than 150	9	2.0%	2,099	24.1%
100 to 149	10	2.2%	1,268	14.6%
60 to 99	21	4.6%	1,630	18.7%
30 to 59	41	9.1%	1,767	20.3%
10 to 29	67	14.8%	1,201	13.8%
1 to 9	217	47.9%	732	8.4%
0	88	19.4%	0	0.0%
Total Permits	453	100.0%	8,697	100.0%

Source: LURC Records, Planning Decisions, Inc.

Figure 4-3. Minor Civil Divisions with 100 or More Building Permits, 1972 to 2005



Source: LURC Records, Planning Decisions, Inc.

Eight of these 19 MCDs are located in the Western Mountains Region and are located along the edge of the jurisdiction or surrounding Rangeley (Fig. 4-4). Rangeley Plantation alone had 416 building permits issued. Sandy River Plantation and Albany are currently growing very quickly – 39% and 30% of their total permits have been issued between 2000 and 2005, respectively.

Five of the 19 MCDs are in the Moosehead Region. Concord and Upper Enchanted are located along the Route 201 corridor, while Rockwood Strip, Tomhegan, and Beaver Cove are on the shores of Moosehead Lake. Upper Enchanted and Tomhegan have been growing quickly since 2000.

Figure 4-4. MCDs with 100 or More Permits Issued, 1972 to 2005		
Region/MCD	Total Permits	Percent of Permits Issued, 2000 to 2005
Western Mountains	1,666	22%
Sandy River Plt	171	39%
Albany	227	30%
Coplin Plt	143	22%
Salem	129	22%
Dallas Plt	289	21%
Lexington	126	18%
Rangeley Plt	416	16%
Freeman	165	15%
Moosehead	665	22%
Upper Enchanted	129	30%
Tomhegan	133	29%
Concord	103	20%
Beaver Cove	182	19%
Rockwood Strip	118	13%
Aroostook	425	14%
Winterville Plt	108	18%
Mount Chase	176	16%
Connor	141	9%
Downeast	473	23%
Lakeville	300	26%
Trescott	173	20%
Central	138	21%
Prentiss	138	21%
Source: LURC Records, Planning Decisions, Inc.		

The Aroostook Region has three fast-growing MCDs. Mount Chase is adjacent to Patten/Island Falls, Winterville is along the Route 11 corridor, and Connor is adjacent to Caribou. Relatively little building permit activity has occurred in these communities since 2000.

Lakeville and Trescott are fast-growing MCDs in the Downeast Region and Prentiss is the only fast-growing MCD in the Central Region. Trescott abuts Lubec and the Route 169, 170, and 171 corridors pass through Prentiss. Lakeville had the second-largest increase in building permits issued in the jurisdiction.

In contrast, a large majority of the jurisdiction had little or no demand for development. More than two-thirds of the MCDs in the jurisdiction had fewer than 10 building permits. A total of 88 MCDs (20% of the total) had no building permits at all.

Much of the new development has occurred in the Western Mountains and Moosehead Regions. Development across the jurisdiction has not been uniform. The Western Mountains and Moosehead Regions together account for more than 50% of the residential development in

Figure 4-5: Building Permits by Region, 1972 to 2005					
	'72 to '79	'80 to '89	'90 to '99	'00 to '05	Total
Western Mountains	32%	31%	25%	32%	30%
Moosehead	17%	19%	25%	22%	21%
Central	16%	14%	16%	17%	16%
Downeast	14%	16%	16%	14%	15%
Aroostook	15%	12%	11%	11%	12%
Interior	5%	6%	8%	3%	6%
Total	100%	100%	100%	100%	100%
Source: LURC Records, Planning Decisions, Inc.					

the jurisdiction. The Central, Downeast, and Aroostook Regions account for between 12% and 16% of the new development each, while the Interior Region accounts for 6%. The distribution of this demand has been relatively constant through the study period. More in-depth regional analysis follows in the next section of this report.

The majority of new building permits were issued for parcels that have convenient access. Nearly 90% of the parcels that received building permits were near a road (Fig 4-5). (Note that this analysis uses the 80% of the parcels that were able to be linked to LURC's GIS database).

The pattern of development was further refined by examining type of road to which the new development is proximate:

- *Primary Roads* are high-speed highway corridors such as Route 27, Route 201, Route 2, and Route 1. Approximately 12% of the building permits were in these road corridors
- *Secondary Roads* are smaller highway corridors such as Route 11, Route 161, Route 6, and Route 16. Approximately 25% of the building permits were in these road corridors
- *Other Improved Roads* are local roads and streets. Approximately 34% of the new building permits were located along these roads.
- *Unimproved Roads* include unpaved roads and logging roads. Approximately 18% of the new development was located along these roads.

Figure 4-6: Building Permits Issued to Parcels within 1,500 Feet of Roads, 1972 to 2005					
Proximity: 1,500' to...	'72 to '79	'80 to '89	'90 to '99	'00 to '05	Total
Primary	17%	11%	11%	11%	12%
Secondary	27%	25%	23%	24%	25%
Other Improved	33%	35%	34%	32%	34%
Unimproved	15%	20%	19%	18%	18%
Other	9%	10%	13%	15%	12%
Total	100%	100%	100%	100%	100%
Source: LURC Records, Planning Decisions, Inc. Note: this analysis uses a 1,500' distance to identify the primary access route to a parcel. Those parcels that are proximate to two road classes are classified as using the higher-order road as a primary access route.					

Figure 4-7: Building Permits Issued to Water-Related Parcels, 1972 to 2005					
	'72 to '79	'80 to '89	'90 to '99	'00 to '05	Total
Within 500' of Water	45%	50%	44%	42%	46%
500' to 1500' from Water	8%	8%	8%	7%	8%
Other	47%	42%	48%	51%	47%
Total	100%	100%	100%	100%	100%
Source: LURC Records, Planning Decisions, Inc. Note- "Water" is either LURC's Great Ponds Zone or other surface water bodies (rivers, lakes, ponds, streams)					

More recent building permit activity is more likely to occur along smaller-volume road corridors. However, drawing conclusions from this is difficult because the classification was made using road classifications from 2003 data. As road corridors receive more traffic volume, they are often improved. Therefore, this might indicate road improvements as much as a changing development pattern.

Proximity to water is an important determinant of residential development demand. Approximately 46% of the building permits were issued to parcels of land within 500' of LURC's Great Ponds Zone or surface water bodies (rivers, lakes, ponds, streams) (Fig. 4-7). Another 8% of the permits were between 500' and 1,500' from a body of water. And the remaining 47% of the permits had no association with bodies of water.

From a peak in the 1980s, the number of building permits issued to water related parcels has been decreasing. From the 1980s to the 2000s, the share of water-related building permits dropped from 50% to 42%. Meanwhile, the number of permits issued to parcels more than 1,500 feet from a water body has increased from 42% to 51%. This suggests that the pattern of development is becoming less dependent on waterfront property.

This trend is particularly noticeable in the Western Mountains Region and to a lesser extent in the Moosehead Region. Water-related development in the Western Mountains Region peaked at 37% in the 1980s and has fallen to 25% in the 2000s. In the Moosehead Region, water related development had reached 73% in the 1970s and was down to 55% in the2000s. In contrast, water-related development in the other regions has fluctuated.

There could be several reasons that water-related development in these two regions has decreased. The amount of waterfront land that is readily available for development has decreased after three decades of rapid development. The growing year-round population in LURC's jurisdiction[17] is less likely to live near water bodies than the seasonal population. The strong real estate market has significantly increased the cost of buying waterfront land. Finally, as easily-accessible waterfront land becomes more expensive, development is likely to move to easily-accessible locations from which a view of the water is available (and outside of the 500' and 1,500' distances in this analysis).

[17] The US Census indicates that the year-round population and the number of LURC residents that commute to work outside of LURC's jurisdiction are increasing. For more information, refer to Section 2 of this report.

Approximately 46% of the building permits were issued for dwellings with seasonal characteristics. Since 1972, the relative share of permits for dwellings with seasonal characteristics has been decreasing. In the 1970s, approximately 47% of the units had seasonal characteristics. In the building boom of the 1980s, approximately 51% of the units had seasonal characteristics. In the 1990s 49% of the units had seasonal characteristics and by the 2000s only 31% of the units were described with seasonal characteristics.

Seasonal Characteristics vs Seasonal Use?

Seasonal characteristics are an inexact measure of whether a residence will be used seasonally. This analysis examined the description of each building permit application and categorized the description into residences with seasonal characteristics (intended for use for part of the year) and those homes with year-round characteristics (intended for use year-round).

Year-round characteristics include those described as year-round homes as well as those with structured foundations, indoor plumbing, insulation, etc. Seasonal characteristics include those described as seasonal homes as well as camps, cottages, cabins, etc.

This source of information is not exact, but it can be used to draw general conclusions about the characteristics of the new structure being built. The US Census is a more accurate source to identify how a residence is being used. See ***Section 2f. Seasonal Housing Projections*** for more information.

The relative share of dwellings with seasonal characteristics has been decreasing for several reasons. Year-round residents are moving into the jurisdiction in a form of rural sprawl, thereby increasing the share of units with year-round characteristics. The difference in the cost between constructing a seasonal unit and a year-round unit has decreased, thereby making year-round units more attractive. The Baby Boom Generation is on the cusp of retirement and are building dwellings with year-round characteristics in anticipation of becoming year-round or seasonal residents. Finally, expectations for what must be in a dwelling unit – even one used seasonally – are increasing.

Figure 4-8: Building Permits Issued for Residences with Seasonal Characteristics[18], '72 to '05

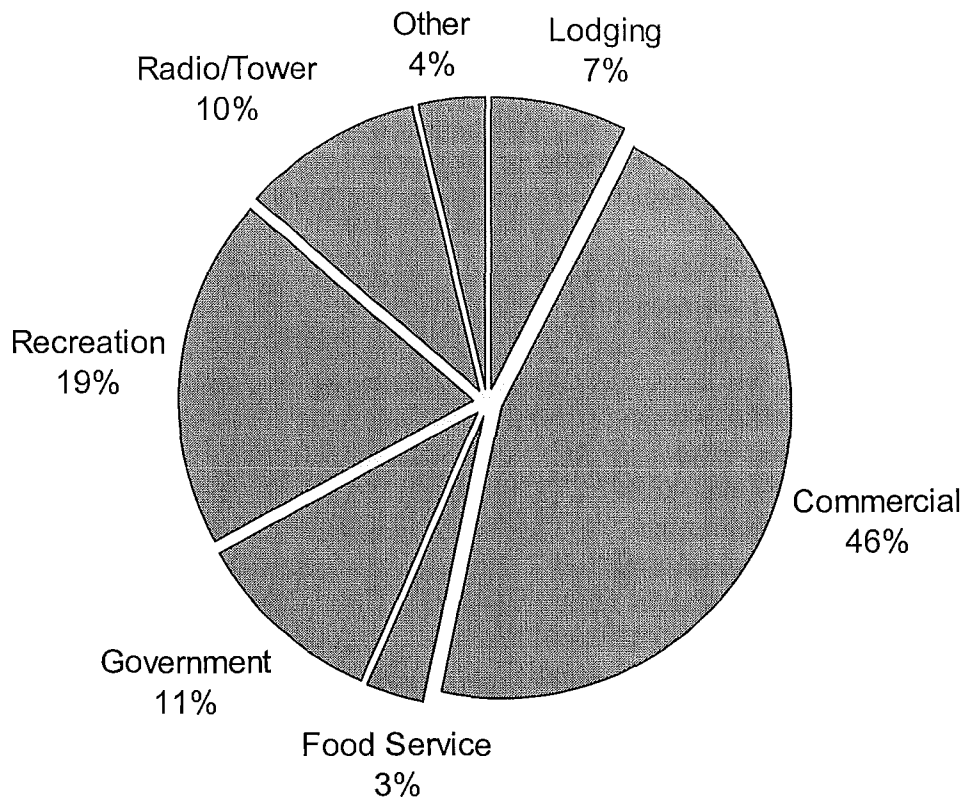
	'72 to '79	'80 to '89	'90 to '99	'00 to '05	Total
Seasonal Characteristics	47%	51%	48%	31%	46%
Year Round Characteristics	53%	49%	52%	69%	54%
Total	100%	100%	100%	100%	100%

Source: LURC Records, Planning Decisions, Inc.

The importance of this growing stock of dwellings with year-round characteristics lies in how these dwellings could be used in the future. Some of these dwellings with year-round characteristics will be used seasonally, but some could become occupied year-round homes. Having such a large stock of potentially year-round homes is an uncommon situation for a governing body because even a relatively small conversion to occupied year-round homes can have significant public facility implications for education, infrastructure, and public safety.

[18] See Footnote 13 for more information.

Figure 4-9: Types of Commercial Development, 1992 to 2005



Source: LURC Records, Planning Decisions, Inc.

4c. Commercial Patterns of Land Use

Between 1992 and 2005 (July), there were 248 permit applications for new commercial, industrial, and nonresidential development in the jurisdiction. Commercial activities (sawmills, automobile repair, beauty salon, etc) accounted for nearly one-half of this development (Fig. 4-9).

Active recreation-related activities, including commercial sporting camps, game hunting areas, and rafting businesses accounted for one-fifth of the new commercial activity. Government facilities and radios/towers accounted for 10% each, and food service, lodging, and other activities accounted for the remaining 15%.

Approximately 39% of new commercial activity is on a parcel located within 500' of a body of water. Lodging and recreation uses are the only type of new commercial development that are more likely than not to be directly associated with water (Fig. 4-10).

These figures suggest that camps/lodging and recreation activities are more strongly associated with bodies of water and other commercial activities are more strongly associated with roads (Fig. 4-10).

These results approximate those found in *New Development in the Wildlands: Where Residential, Commercial, and Industrial Development has Occurred in Relation to Roads, Water Bodies, and Mountains*[19]. This report examined new commercial development from 1971 to 1991. It found that:

- 42% of new commercial activity is associated with a water body (compared to 39% between 1992 and 2005).
- Approximately 50% of recreation is associated with water (compared to 50% between 1992 and 2005).
- Commercial Recreation and Public Recreation were the most likely associated with water between 1971 and 1991 (compared with Camps/Lodging, Recreation, and Radio/Towers in 2005).

Figure 4-10: Proximity of Permits for New Commercial Development, 1992 to 2005

Feature	Camp/ Lodge	Comm- ercial	Food Service	Govern- ment	Other	Rec- reation	Radio/ Tower	Total
Within 500' of Water	71%	31%	25%	21%	43%	50.0%	50%	39%
Not Within 500' of Water	29%	69%	75%	79%	57%	50%	40%	61%
Total	100%	100%	100%	100%	100%	100%	100%	100%
Within 1500' from Road	93%	99%	75%	93%	86%	91%	90%	95%
Not Within 1,500' Road	7%	1%	25%	7%	14%	9%	10%	6%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Source: LURC Records, Planning Decisions, Inc.

All types of commercial development are associated with road access (Fig 4-10). Between 1992 and 2005, more than 95% of the commercial development activity occurred within 1,500' of a road.

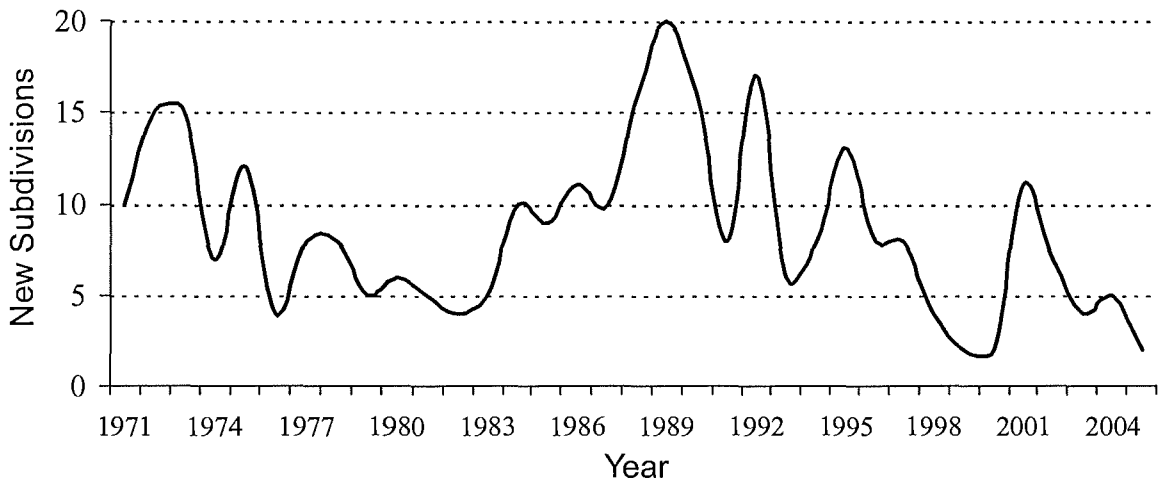
4d. Subdivision Patterns

Subdivision activity in the jurisdiction has been less directly influenced by the health of the region's economy than has general residential development. This section analyzes new subdivision activity in the jurisdiction by year and location.

Due to constraints with the data, this analysis does not identify the number of lots in each subdivision. In addition, this analysis excludes minor modifications to existing subdivisions.

[19] Prepared for the Maine Land Use Regulation Commission by Land & Water Associates, October 19, 1993.

Figure 4-11: New Residential Subdivisions, 1971 – 2005 (July)



Source: LURC Records, Planning Decisions, Inc

For example, permits to adjust lot lines in existing subdivisions were excluded from this analysis because this analysis focuses on new subdivisions or major expansions of an existing subdivision.

Between 1971 and 2005 (July), 301 new subdivisions were approved in the jurisdiction. Subdivision activity peaked in the early 1970s and late 1980s during strong real estate markets. Subdivision activity generally decreased from these peaks for the next 10 years when activity increased again. Between 2000 and 2004, the jurisdiction has averaged 6 new subdivisions per year.

Four in every ten subdivisions in the jurisdiction have been in the Western Mountains (Fig 4-12). Most of this activity occurred in the 1970s and 1980s when that region accounted for nearly one-half of all the subdivisions in the entire jurisdiction.

Figure 4-12: Subdivision Approvals by Region by Decade, 1971 to 2005

	1970	1980	1990	2000	Total
Western Mountains	51%	48%	27%	26%	40%
Moosehead	19%	25%	31%	52%	28%
Central	7%	10%	26%	13%	14%
Downeast	7%	11%	6%	3%	8%
Aroostook	16%	4%	7%	6%	8%
Interior	0%	2%	3%	0%	2%
Total	100%	100%	100%	100%	100%

Source: LURC Records, Planning Decisions, Inc.

The Moosehead Region accounted for nearly three in every ten subdivisions. Activity in this region appears to be increasing. In the 1990s this region accounted for nearly on-third of all subdivisions and in the 2000s it has accounted for more than one-half of the subdivisions.

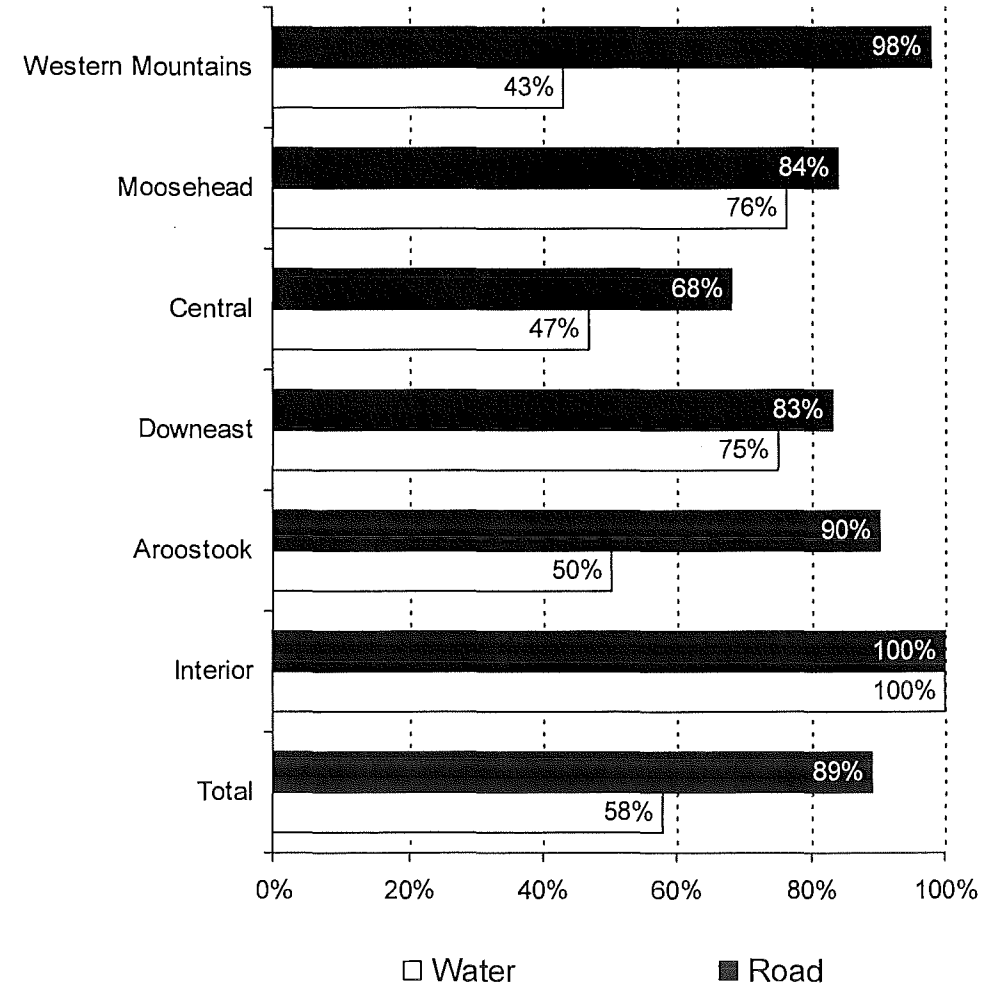
Subdivision activity in the Downeast, Aroostook, and Interior regions appears to be modest.

Subdivision activity usually occurs near a road or water body. For the jurisdiction as a whole, nine in every ten subdivisions were located within 1,500' of a road and six in every ten subdivisions were located within 500' of a water body (Fig. 4-13).

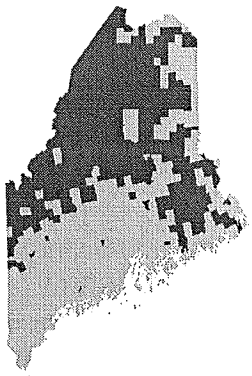
When compared with residential dwelling unit permits, subdivisions are more likely to be located near bodies of water. 58% of subdivisions were within 500' of water compared with 46% of dwelling units. This suggests that development along water bodies is more likely to be the result of planning and land speculation by real estate developers and investors than development in the rest of the jurisdiction.

Within each region, subdivision proximity to roads and water bodies closely mirrors the development pattern of dwelling units.

Figure 4-13: Subdivision Activity by Region, 1972 to 2005



Source: LURC Records, Planning Decisions, Inc.



Section 5.

Changing Economic Forces

5a. Introduction and Key Findings

The health of Maine's forests, lakes, shorelines, and mountains is vital to the long-term health of the state's overall economy. How the Land Use Regulation Commission protects the long-term health of these resources is thus critical to the health of Maine's overall economy.

This report identifies the following key findings:

1. ***The resources within the jurisdiction of the Land Use Regulation Commission have an economic impact that goes far beyond the people who live, work, and play in the jurisdiction.*** Less than 1.0% of the state's population lives within the jurisdiction, but the resources within the jurisdiction are the foundation for 25% of the sales in the entire state of Maine. The jurisdiction is the foundation of a $7 billion forest products industry and an important component of a $6 billion tourism industry[20]. Other associated businesses have an impact of approximately $15 billion in sales.

2. ***Residents in the jurisdiction are more likely*** than residents of the state to have lower incomes, be self-employed, be more reliant on social security, have fewer years of formal education, and be older.

3. ***The demographic characteristics of the region's population tend to increase dependence on natural resource-based industries*** (foresty, tourism). However, the year-round population is aging and fewer young residents will be available to replace the aging workforce.

4. ***The Rim Region earns less and has fewer jobs per capita.*** In 2003, this region had 20% of the state's population, 17% of the state's jobs, and 15% of the state's earnings.

[20] Sales figures from (1) University of Maine, College of Natural Sciences, Forestry and Agriculture White Papers, Series 4: Issues in Maine's Natural Resource Industries, March 2003. (2) Longwoods International Travel and Tourism in Maine "The 2003 Visitor Study Management Report", September, 2004. Northeast State Foresters Association The Economic Importance of Maine's Forests, December 2004.

5. ***The Rim Region (Oxford, Franklin, Somerset, Piscataquis, Aroostook, and Washington counties) is heavily dependent on the forest products industry.*** Forest products accounted for five-times more earnings in the region than the tourism industry. However, the forest products industry is plagued by slow growth and long-term employment declines.

6. ***The Rim Region has experienced below average growth.*** Compared with other regions in the state between 1990 and 2003, the Rim Region had the low employment growth, stagnant earnings growth, and a decline in population.

7. ***The vast increase in worldwide supply of forest products*** is the principal force affecting the economy in the Rim Region. This has depressed product prices and increased competition. In response, the forest products industry has merged, divested assets (marginally productive mills and timber holdings), and invested in new technology.

8. ***Forest products manufacturing in Maine has borne the brunt on the changing forest products industry.*** Forest products manufacturing facilities in the northeast are older and smaller and have higher labor and transportation costs. Employment in Maine has declined.

9. ***The forest products industry in Maine is becoming more specialized.*** Engineered wood products are currently the fastest growing sector of the industry. The trend towards environmentally responsible production could be a boon Maine's forest products industry.

10. ***Tourism is growing quickly in northern Maine.*** As the region's real estate market has boomed and timber companies divested their real estate holdings, residential development has flourished.

5b. Characteristics of the Jurisdiction's Year-Round Residents

This section summarizes the economic characteristics of the year-round residents who live within LURC jurisdiction. For more detailed information on the population and demographics characteristics of these residents, see the Population and Demographics Analysis, 2005.

In 2000, the Census reported 5,215 LURC residents as employed. The largest number, over 1,100 worked in the health/education sector, followed by nearly 800 in manufacturing. In relative terms, however, LURC residents were highly concentrated in forestry, transportation construction, tourism, and manufacturing. Over 9% worked in natural resource-based industries (forestry, farming, and fishing), three-times the state average. Table 1 below lists the absolute number of LURC residents working by sector in 2000 and shows their relative concentration by sector compared to the overall state average.

Compared to the state as a whole, residents living within LURC jurisdiction are more likely to:

- work in forestry, manufacturing, construction, transportation, and recreational industries;
- have lower incomes;

- be self-employed and more reliant on social security and/or retirement income;
- have fewer years of formal education; and
- be older.

Figure 5-1: LURC Employment & Relative Share of Employment by Categories, 2000

% of Employment in:	LURC	LURC	Maine	LURC/Maine Ratio
Education/Health	1,132	21.7%	23.2%	0.94
Manufacturing	793	15.2%	14.2%	1.07
Retail	568	10.9%	13.5%	0.81
Construction	495	9.5%	6.9%	1.38
Forestry	480	9.2%	2.6%	3.54
Entertainment/Recreation	438	8.4%	7.1%	1.18
Transportation	323	6.2%	4.3%	1.44
Public Administration	271	5.2%	4.5%	1.16
Professional	214	4.1%	6.9%	0.59
Other Services	209	4.0%	4.7%	0.85
Finance	156	3.0%	6.2%	0.48
Wholesale Trade	104	2.0%	3.4%	0.59
Information	31	0.6%	2.5%	0.24
Total	5,215	100.0%	100.0%	

Source: U.S. Census, see Appendix B-13

These characteristics suggest that the year-round residents of LURC territory are largely dependent on natural resource-based industries (forestry, tourism), and government supported industries (education, health care and public administration) for their livelihood. The older age profile and lower formal education attainment exacerbate the dependence the residents have on these industries. Conversely, as the year-round residents continue to move toward retirement, the industries that depend on their labor could have a difficult time replacing these jobs. The dominant trend in the forestry industry in the U.S. as a whole is to cut costs and increase productivity by replacing labor with more capital-intensive ways of harvesting and processing wood fiber. Thus, this population is facing the double-edged sword of heavy dependence on the forest products industry and the long-term decline of employment opportunities in that industry.

Residents of LURC territory tend to have lower incomes than residents in the state as a whole. Approximately 16% of LURC year-round residents live below the poverty line, compared with 11% for the state as a whole. Because poverty is defined relative to

Figure 5-2: Households by Income, LURC and Maine, 2000

Income Measure	LURC	Maine	LURC/Maine Ratio
% below poverty level*	15.5%	10.6%	1.46
% below $35,000	69.7%	46.8%	1.49
% above $35,000	30.3%	53.2%	0.57

Source: U.S. Census
Note- the poverty level is not an absolute number but rather a relative standard that depends on region, family size and age of members of the household

household size, age of household members and area, no comparison of absolute income level is possible. The general point remains, however, that a higher proportion of LURC households fall below the standard defined for their household types than is true for the state as a whole. The absolute comparison of income levels is evident in the fact that nearly 70% of LURC residents live on less than $35,000 per year, compared with 47% for the state as a whole.

Figure 5-3. Income by Source, LURC and Maine, 2000

Share of Income from:	LURC	Maine	LURC/Maine Ratio
Self-employment	11.1%	7.6%	1.46
Social Security & Retirement	16.3%	12.6%	1.29
Source: US Census			

LURC residents tend to receive higher proportions of their incomes from self-employment, social security, and retirement than residents of the state as a whole. In 2000, an estimated 11% of household income in LURC jurisdiction was from self-employment, compared with 8% for the state as a whole. Another 16% of the income came from social security income and retirement income. As the population in the jurisdiction continues to age, attracts more retirees, and depend on the declining employment within the forest products industry for job opportunities, residents will likely continue to be more reliant on these sources of income.

Figure 5-4: Population by Age Group, LURC and Maine, 2000

Share of Population by Age	LURC	Maine	LURC/ME Ratio
up to age 35	37.2%	44.4%	0.84
35 to 44	16.9%	16.7%	1.01
45 plus	45.9%	38.9%	1.18
Source: US Census			

LURC residents also tend to be older than residents of the state as a whole. In 2000, 37% of the population was under 35 years of age and 46% was older than 45 years. This is a significantly older age profile than that of the state as a whole which had 44% of its residents under 35 years and 39% over 45 years. The age profile of LURC residents and Maine residents is likely to rise in the future as life expectancies increase and the Baby Boom Generation continues to grow older.

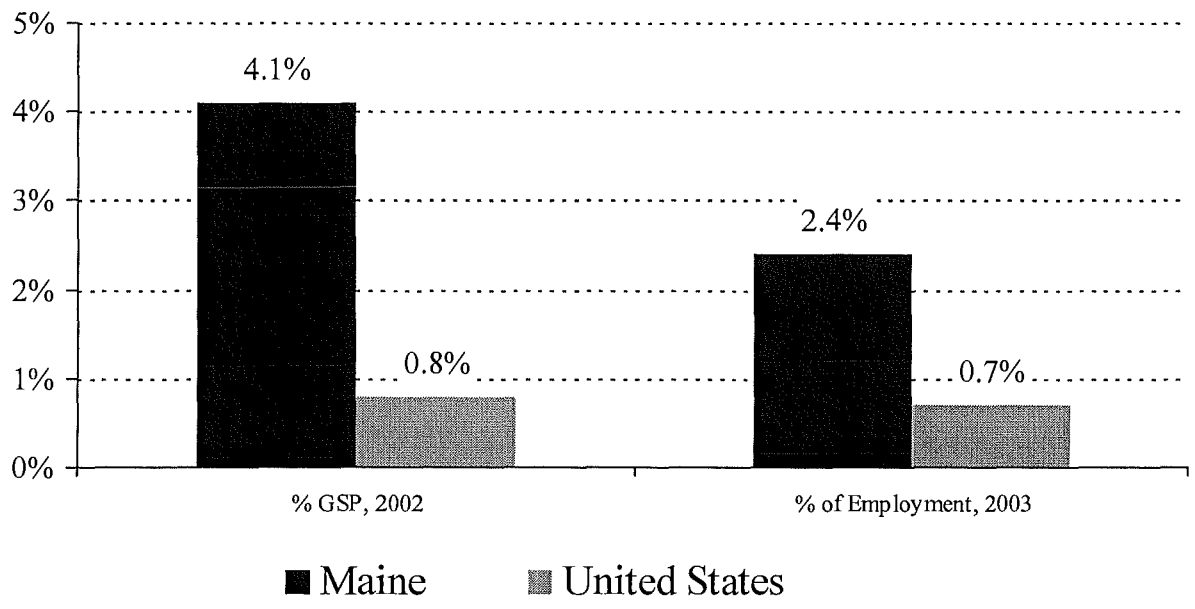
Figure 5-5: Population by Education Level, LURC and Maine, 2000

Population Aged 25+:	LURC	Maine	LURC/Maine Ratio
No HS Diploma	22.0%	14.6%	1.51
HS Diploma	43.9%	36.2%	1.21
College or Grad Degree	18.4%	30.2%	0.61
Source: US Census			

LURC residents aged 25 and older tend to have lower levels of education attainment. In 2000, 22% of LURC residents had no high school diploma, compared with 15% for Maine as a whole. In addition, only 18% of LURC residents had a college degree or graduate/advanced degree, compared with 30% for the state as a whole.

While Maine's forest based economy is large in absolute terms, it is even more important in relative terms. The share of Maine's total Gross State Product derived from lumber and wood products is five times the national average, and its share of total employment is more than three times the national average (Fig 5-6).

Figure 5-6: Relative Importance of Forest Products Industry

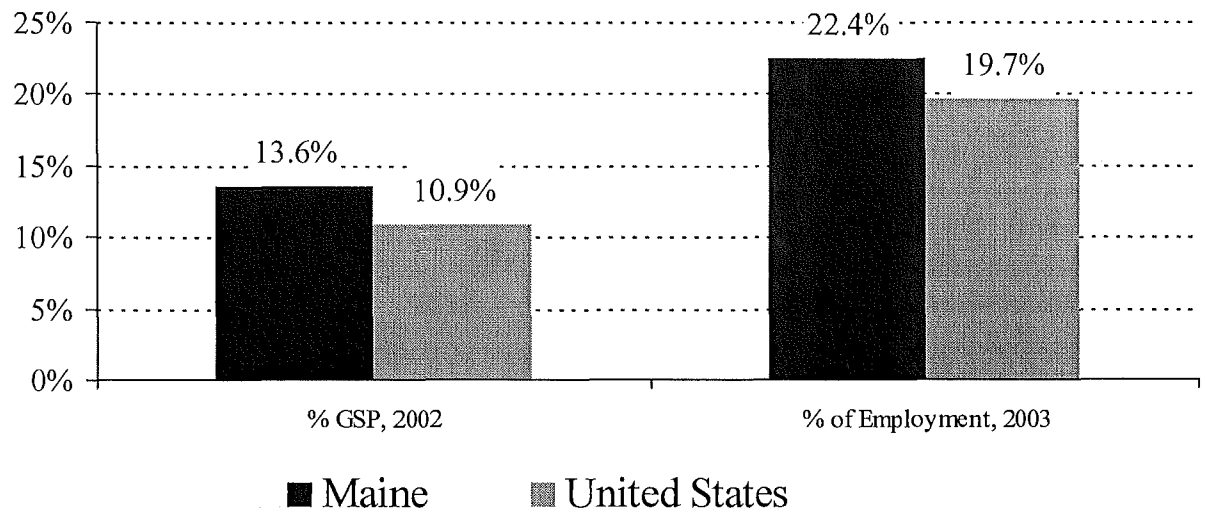


Source: Bureau of Economic Analysis <http://www.bea.gov/bea/regional>
Gross State Product (GSP)
Employment is total full- and part-time jobs

The state's tourism industry is also an economic cornerstone for Maine. The shares of Gross State Product (GSP) and employment that derive from tourism are higher in Maine than in the nation as a whole.[21] Maine's relatively higher proportions in these sectors is particularly notable in that they occur even though Maine's income is approximately 15% below the national average, meaning that support for Maine's above average tourist spending comes primarily from out-of-state buyers rather than from in-state customers.

[21] Tourism is here defined to be the total of the lodging, restaurant and retail industries.

Figure 5-7: Relative Importance of Tourism Industry



Source: Bureau of Economic Analysis
Gross State Product (GSP)
Employment is total full- and part-time jobs
Tourism Industry includes arts/entertainment/recreation, food/accommodations, and retail sectors

This dependence is particularly acute in the economy of the region just beyond the boundaries of LURC jurisdiction, an area the Maine State Planning Office has dubbed Maine's Rim County Region.

The State Planning Office has identified three distinct economic regions within Maine (Figure 3). The Coastal Region, defined as all of the coastal counties (except Washington County), is centered on the service sector, trade, tourism, and the military. The Central Region (Androscoggin, Kennebec, and Penobscot Counties) is more dependent on manufacturing, health care and government. The Rim Region, which includes the majority of LURC jurisdiction, is predominantly a natural resource based economy dependent on forest products and tourism.

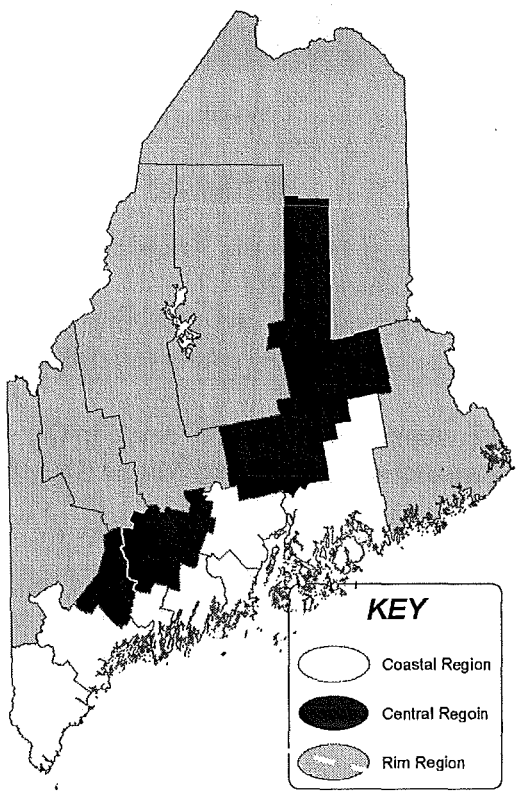
Please note that Penobscot County is included in the Central Region because of the overwhelming importance of the Greater Bangor region in the County's total population, employment and income. Clearly, the majority of the land area of Penobscot County is forested and logically should be included in the Rim Region. Thus, Figure 1 is somewhat misleading in its physical description, but inclusion of Penobscot County in the Rim Region would create an even greater economic distortion. On a physical basis, it would be more accurate to think of the Central Region including only the Bangor Labor Market Area, dotted line on Figure 5-8. The economic totals using countywide data would still present an accurate picture of the differences among these three major regions.

The Rim Region includes Oxford, Franklin, Somerset, Piscataquis, Aroostook, and Washington Counties. They contain the vast majority of land within LURC jurisdiction as well as most of the towns that border LURC territory and provide the bulk of the economic activity upon which LURC residents depend and to which most of the forest resources within LURC territory are shipped for processing. Therefore, we will use the Rim Region as a proxy for the broader LURC economy.

The purpose of this distinction is to further the point made in the previous section, namely that the economy defined by those listed by the Census as residents of LURC territory is not the LURC economy. The LURC economy is the sum of the commercial activities that use LURC resources but take place, for the most part, in organized cities and towns just beyond LURC boundaries. The economy of the Rim Counties—approximately 260,000 people working in approximately 140,000 jobs and earning approximately $6.3 billion in personal income—is the closest thing to a measure of the LURC economy.

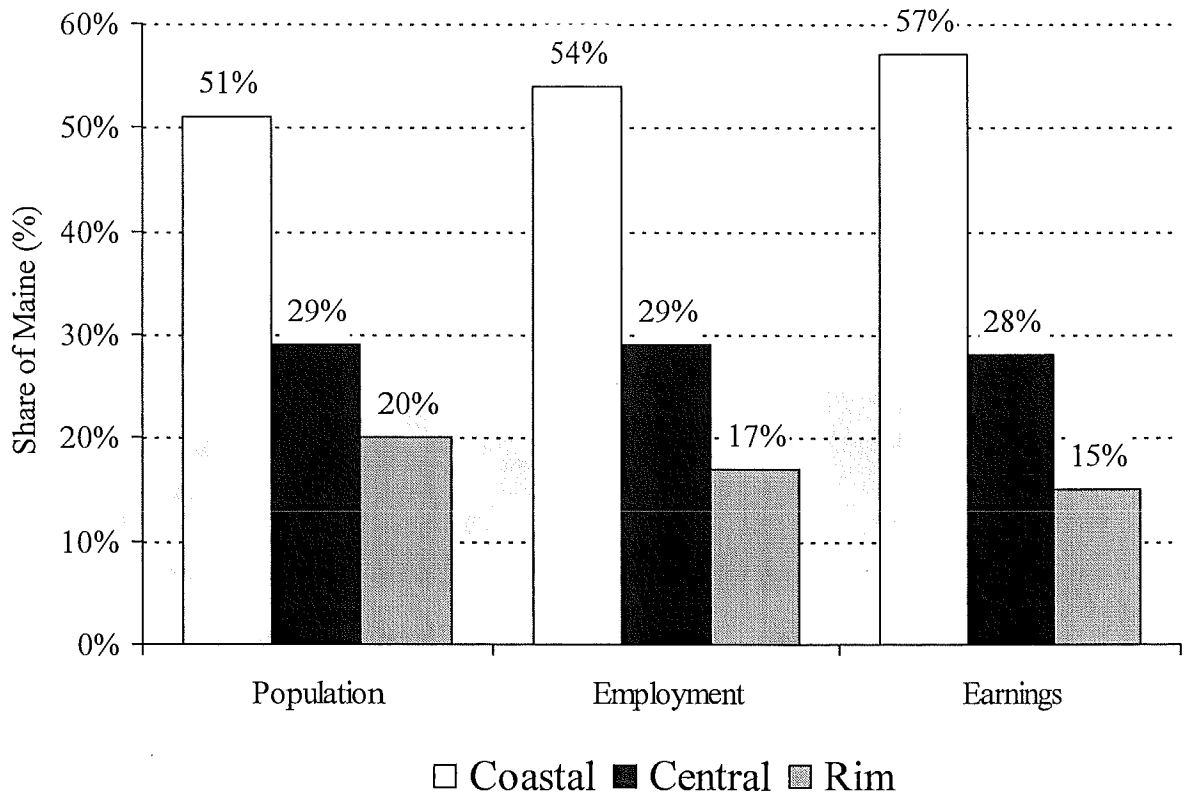
The economic characteristics of the Rim Region differ from the Central and Coastal Regions in two respects. First, the Rim Region has a disproportionately small share of the state's earnings and employment relative to its population (Fig. 5-9). In 2003, this region accounted for 20% of the state's population, but only had 17% of its jobs and only 15% of its earnings. In short, the LURC-related economy provides fewer jobs per resident than the economy of the rest of the state and the earnings made in those jobs are less than those made in the rest of the state.

Figure 5-8: Major Economic Regions



Coastal Region – York, Cumberland, Sagadahoc, Lincoln, Knox, Waldo, and Hancock Counties
Central Region – Androscoggin, Kennebec, Penobscot Counties
Rim Region – Oxford, Franklin, Somerset, Piscataquis, Aroostook, and Washington Counties

Figure 5-9: Relative Share of Key Economic Indices by Region, 2003

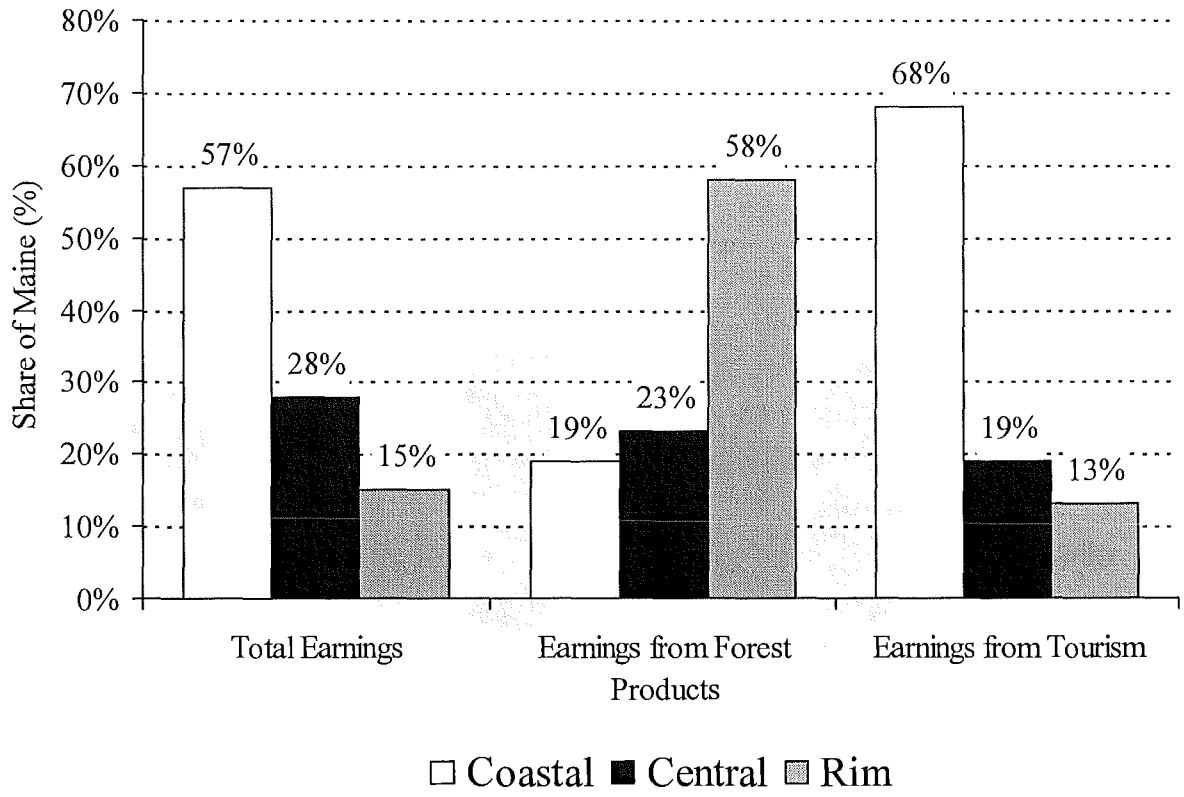


Source: U.S. Department of Commerce, Bureau of Economic Analysis

By comparison, the Central Region has a proportionate share of population, employment, and earnings while the Coastal Region has disproportionately larger shares of employment and earnings.

The second significant characteristic of the Rim Region's economy is its dependence on lumber and paper manufacturing (Fig. 5-10). While the Rim Region accounted for just 15% of the state's total earnings, it accounted for nearly 60% of the state's earnings from lumber and paper manufacturing. In contrast, the region's share of tourism earnings (restaurant, lodging, and recreation services) as a proportion of the state is disproportionately small, 13% of the state total of earnings in tourism compared to 15% of total earnings.

Figure 5-10: Relative Share of Earnings by Key Industries by Region, 2003

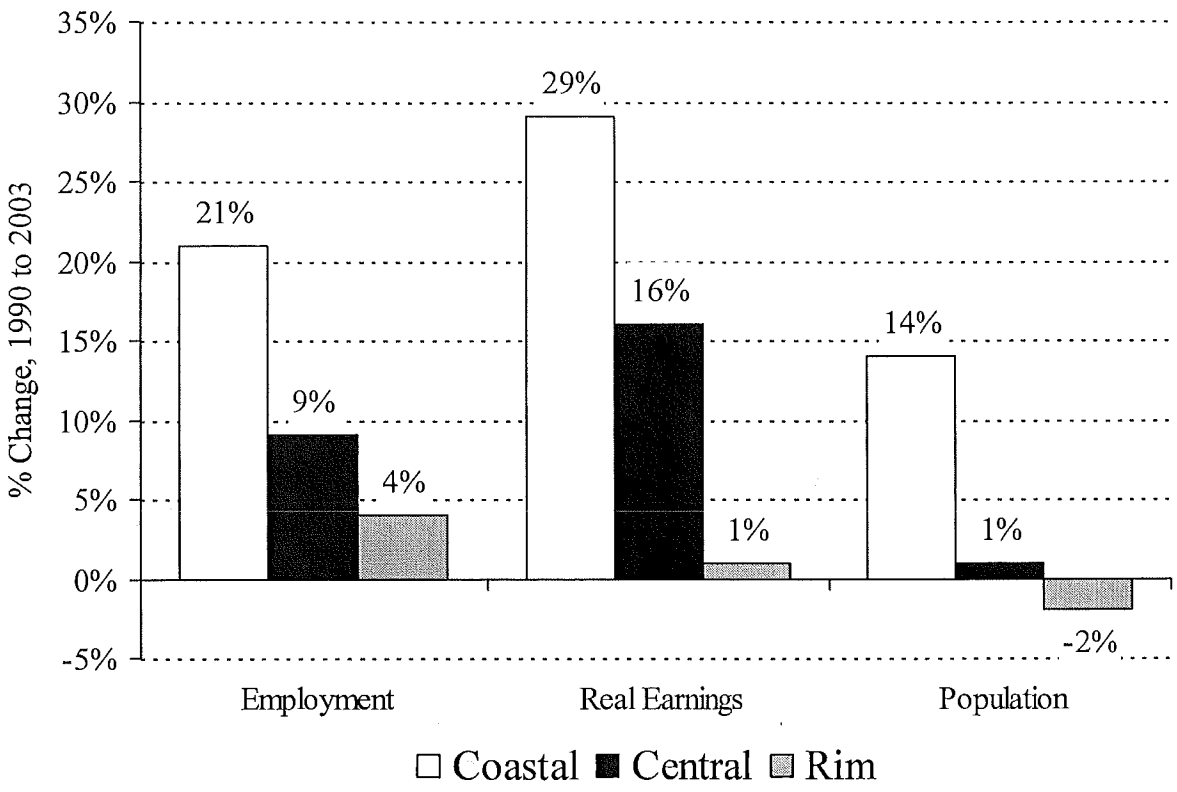


Source: U.S. Department of Commerce, Bureau of Economic Analysis

In 2003, the forest products industry was the dominant economic force in the Rim Region. It accounted for approximately five-times more earnings in the region than the tourism industry. However, the forest products industry has been plagued by slow growth, declining employment, and a fast-changing competitive and technological environment.

In part because of these changes in the Rim Region's major industry, the region has experienced below average growth over the past decade and a half. Over the period from 1990 to 2003, the Rim Region had the slowest employment growth, stagnant earnings growth, and a decline in total population. Figure 5-11 illustrates these growth rates.

Figure 5-11: Growth Rates of Key Economic Variables by Major Region, 1990 – 2003



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Employment in the Rim Counties over the period grew at less than one half the rate in the Central Counties and less than one fifth the rate of the Coastal Counties. The disparities with respect to inflation-adjusted earnings and population change are even more striking. The Rim Counties actually lost population over this period.

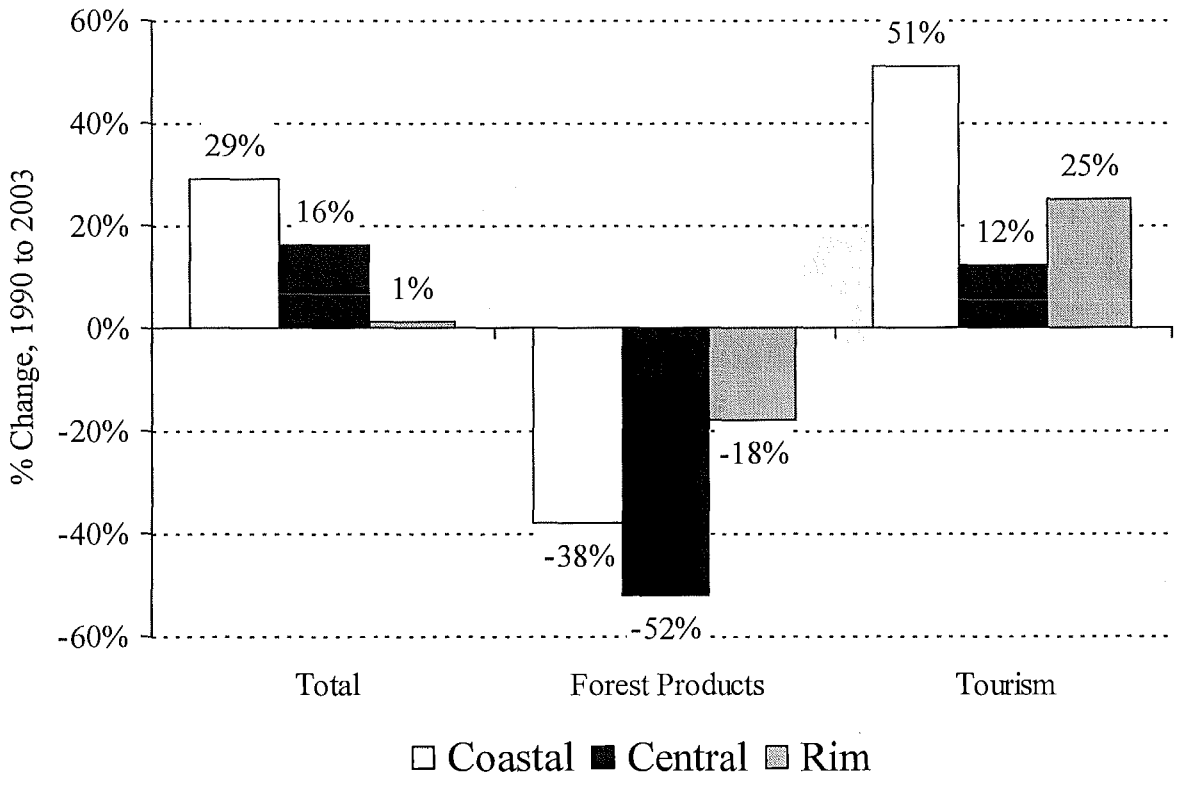
Within this pattern of slow growth, however, certain positive facts can be found. First, while earnings in the forest products industry have declined for the state as a whole, they declined less rapidly in the Rim Counties. This indicates that the more marginal plants have not been located primarily in the Rim County region. In fact, while much attention has been paid to the closing of several paper mills, no mill built to process virgin Maine timber has ever been closed. While employment in the forest products industry has declined over the past generation, the actual value of production has increased. Indeed, the investment in productivity enhancing (and hence labor saving) technology has kept the core of Maine's forest products industry alive and competitive within an ever more challenging global environment. Total earnings from the forest products industry in Rim Counties amounts to approximately $650 million, by far the largest component of the region's total earnings of nearly $4 billion.

Second, while not as rapid as in the Coastal Region, the growth of tourism in the Rim County region has been more rapid than in the Central Region, perhaps pointing to an opportunity to

help offset the loss of employment in the forest products sector. Tourism—here defined as the earnings made from lodging, restaurant and entertainment/recreation businesses—grew from approximately $80 million in 1990 to nearly $150 million in 2003.

Figure 5-12 illustrates these trends after adjusting by increases in the Consumer Price Index (CPI) in order to present the comparison in "real" dollar terms.

Figure 5-12: Growth Rates of Real Earnings by Sector & Region, 1990 – 2003

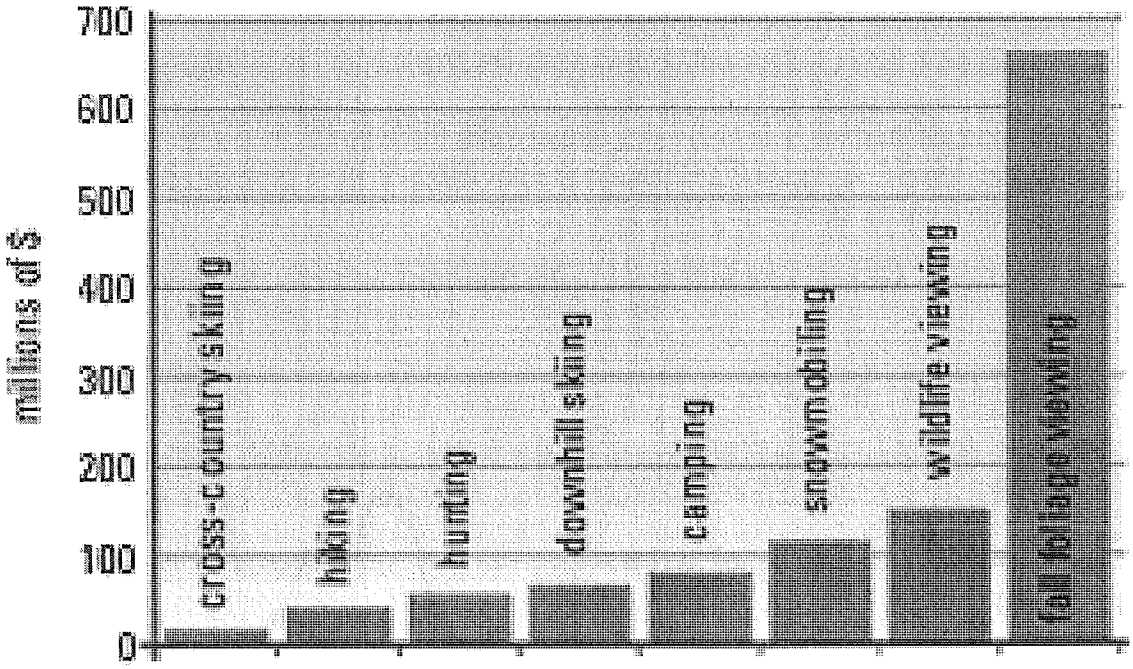


Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Tourism is a notoriously difficult industry to define. For businesses it is basically trade and services—hotels, motels, restaurants, gas stations and recreational activity providers. The question is, "What brings customers to these businesses?" In Maine, there is no question but that the northern forest is a major attraction. The Northeast State Foresters Association estimates that approximately $1.2 billion of Maine's tourist business derives from the attractiveness of its forest and associated waters and wildlife.[22] The single greatest share of this revenue comes from fall foliage seekers, but significant sales also result from camping, hiking, hunting, skiing, snowmobiling and wildlife viewing.

[22] Northeast State Foresters Association The Economic Importance of Maine's Forests, December 2004, p. 7.

Figure 5-13: Forest Related Tourism Sales in Maine, 2001 estimate



Source: Northeast State Foresters Association The Economic Importance of Maine's Forests, December 2004, p. 6.

While these activities and their related spending are not growing as fast as beach and seashore oriented tourism along Maine's coast, they are growing as a source of income in the Rim County region and thus represent a majority opportunity for economic growth and diversification in this region.

5c. Measuring the Seasonal Pattern of Tourism on the Region's Economy

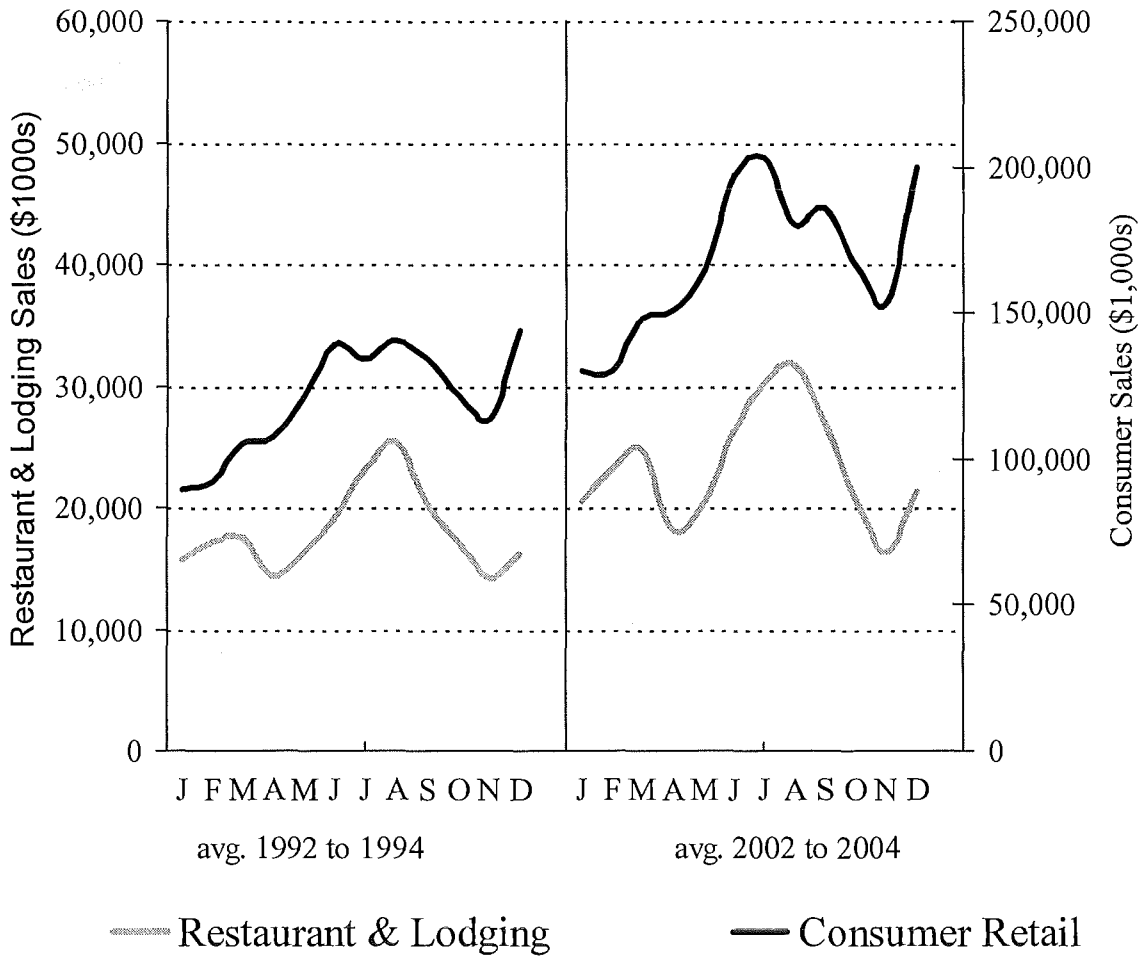
The forest, lakes, shorelines, and mountains within LURC jurisdiction are an enormous attraction for vacationers, tourists, and recreation enthusiasts. Approximately 70% of the housing units in the jurisdiction are used seasonally. While earnings from tourism in the "LURC economy" make up only 13% of the state's total earnings in that sector (Fig. 5-10), those earnings grew by 25% since 1990 compared to a 40% drop in earnings from forest products (Fig. 5-12). In short, tourism does present the "LURC economy" a major opportunity to maintain healthy communities in the face of an unavoidable decline in forest manufacturing employment.

Retail sales are a useful metric to measure the seasonal impact tourism and recreation has on the economy surrounding LURC jurisdiction. The Maine State Planning Office tracks retail sales activity on all items subject to the Maine sales tax. An examination of the region's pattern of retail sales illustrates its seasonal character.

Between 2002 and 2004, consumer retail sales (all items on which consumers pay tax) peaked at an average $200,000,000 in June and July within the Rim Region (Fig. 5-14). This is 50% higher than their $130,000,000 trough in January during the same period. Consumer sales gradually increase through the spring to their summer peak before declining in the fall. Consumer sales peak again in December as consumers prepare for the holidays.

The relative increase in retail sales between January and the summer peak has remained constant through the last decade. In the early 1990s, peak summer consumer sales were approximately 50% higher than January consumer sales.

Figure 5-14: 3-year Average of Retail Sales in the Rim Region, 1992-1994 and 2001-2004



Source: Maine State Planning Office

Restaurant and lodging sales, which is a subset of consumer sales, is a more accurate depiction of seasonal tourist activity. Restaurant and lodging sales includes food purchased for immediate consumption (e.g. excludes grocery items not subject to Maine sales tax) as well as all room/lodging rentals subject to sales tax.

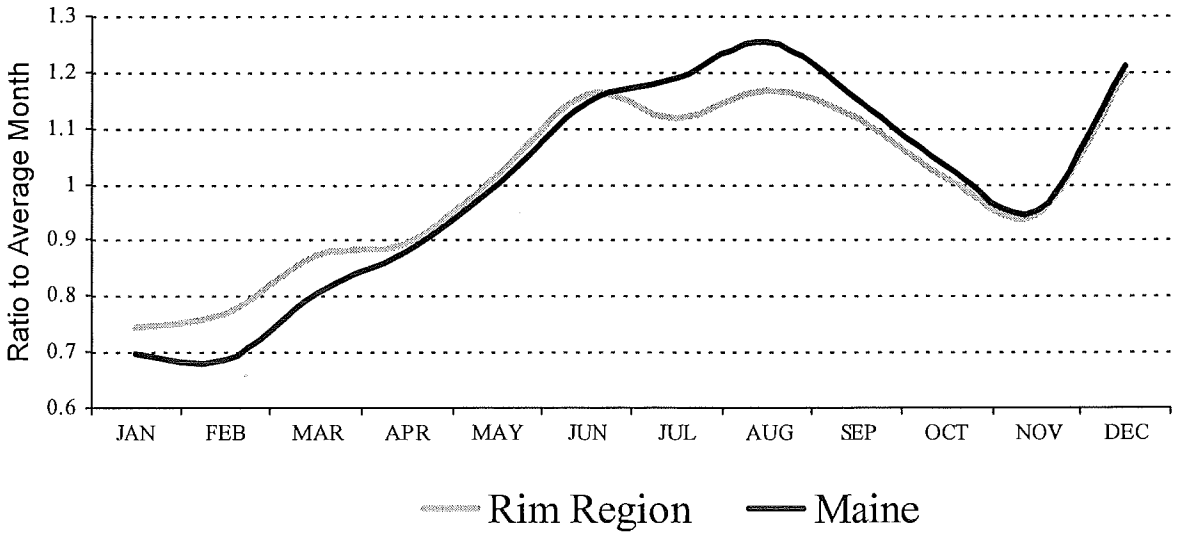
Between 2002 and 2004, restaurant and lodging sales peaked at approximately $30,000,000 in July and August (Fig. 5-14). By November, sales have fallen to approximately one-half their peak levels. Sales steadily increase through the winter and reach a winter peak in March ($24,000,000) before dropping in the spring.

Compared with the monthly average from 1992 to 1994, restaurant and lodging sales have developed a stronger seasonal pattern. Winter sales have become more pronounced, while the spring and fall have changed only modestly in the last decade (approximately $2,000,000 fewer sales in 1992 to 1994). In addition, the length of the summer peak has become broader – suggesting that the length of the tourism season has grown.

The pattern of consumer sales mirrors the pattern for the state as a whole (Figure 9). For comparison purposes, each three-year monthly average has been indexed to the annual average per month. Therefore, a monthly total above 1.0 indicates higher-than-average sales while a total below 1.0 indicates lower-than-average sales.

This analysis suggests that the Rim Region's seasonal pattern of consumer retail sales closely matches the pattern for the state as a whole, the principal exception being the level of sales occurring in the winter months is higher and the summer months is lower than the state as a whole.

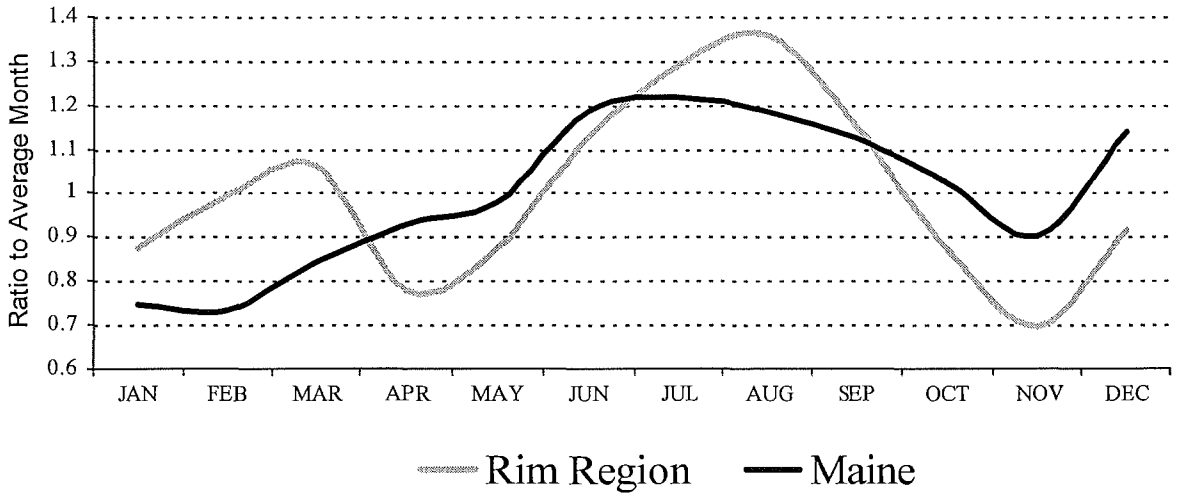
Figure 5-15: Seasonal Pattern of Consumer Retail Sales, 2002 to 2004



Source: Maine State Planning Office, Retail Sales Reports

The pattern of restaurant and lodging sales in the Rim Region displays higher seasonal fluctuations than does the state. This means that tourism in the Rim Region is more clearly focused in the winter and summer and has a relatively greater impact on overall sales than tourism spending in other regions.

Figure 5-16: Seasonal Pattern of Restaurant and Lodging Sales, 2002 to 2004



Source: Maine State Planning Office, Retail Sales Reports

5d. Broader Economic Forces Affecting the Northern Forest

Several significant trends in the region, the nation, and around the globe affect what we have here called "the LURC economy." The purpose of this section is to describe these forces and explain in very summary fashion how they affect LURC territory.[23]

The principal force that has shaped the area's economy has been the vast, worldwide increase in the supply of forest products. In addition to this force and in part because of it, there are several derivative forces that will continue to affect the region's economy. This section examines the major trends and discussed how each is likely to affect the economy that depends on LURC resources.

1. Worldwide Supply of Forest Products

By far, the most significant economic force affecting the Northern Forest has been the huge increase in the supply of wood products over the past decade and its consequent downward pressure on prices.

[23] This section of the report draws heavily on Ed Pepke Global Forest Products Market and Resource Trends a presentation made at the Small Log Conference, Coeur d'Alene, Idaho, April 1, 2005 and *Maine Future Forest Economy Project*; Prepared By Innovative Natural Resource Solutions LLC for The Department Of Conservation – Maine Forest Service and Maine Technology Institute; March 2005.

Following a major drop following the recession of the early 1990s, global wood production remained relatively flat through the mid 1990s. Since that time, however, production in all major regions except Africa has increased dramatically, even through the brief United States recession of 2001. This increase has been the result of heavier harvesting on existing forestland, the opening up of new forest land to international trade, and the development of new forest plantations (primarily in South America and Asia). Most observers of world forestry trends expect this expansion of production to continue.[24]

The primary force behind this increase in production has been the enormous growth in demand in Asia. While production exceeds consumption in every other region of the world, in Asia, consumption has, over the past fifteen years, grown much faster than production, thus fueling a worldwide increase in forest product exports.[25]

The most significant effect that the increase in wood supply has created is downward pressure on lumber and wood prices, particularly in the U.S. Producer price trends for paper and lumber products in the United States have fluctuated throughout the last ten years, but have generally been declining. While lumber prices spiked briefly in 1997 and 1999, the overall pattern for both lumber and paper prices through 2003 was downward. In 2004 prices spiked again, due primarily to the world-wide housing boom fueled by continuing low interest rates and the emergence of the U.S. economy from the recession of 2001. In 2005, commodity prices increased even more dramatically for a variety of reasons ranging from the continuing industrialization of China to the aftershocks of natural disasters, particularly Hurricane Katrina, and steadily rising energy prices. This has provided some price relief to Maine's forest product producers, but the long-term implications of increasing worldwide supply of wood fiber remains the predominant force in the industry. These price increases have eased pressures on wood and paper producers, allowing those who have survived the shake-out of the past decade to thrive is they continue to invest in productivity enhancing equipment.

What will happen to prices in the future? Several variables are going to affect the demand and supply of paper and wood products – thereby influencing prices. First, the vast expansion of wood harvests from newly cut land cannot continue. Every year worldwide, land area the size of Idaho is deforested through cutting, burning, and urbanization. In addition, the creation of new factories will probably subside as it becomes more difficult to reach and exploit new sources of supply. As these processes continue, the flood of virgin timber onto the market will slow, which will allow prices to rise.

Nonetheless, downward pressures on prices will remain. A rise in interest rates – which many economists are projecting – or a slowdown in world economic growth will reduce demand on paper and lumber products. In addition, a moderation in the residential housing market could also reduce demand. Any reduction in demand could cause producers to keep prices lower.

[24] See for example FAO State of the World's Forests, 2005
http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/007/y5574e/y5574e00.htm.

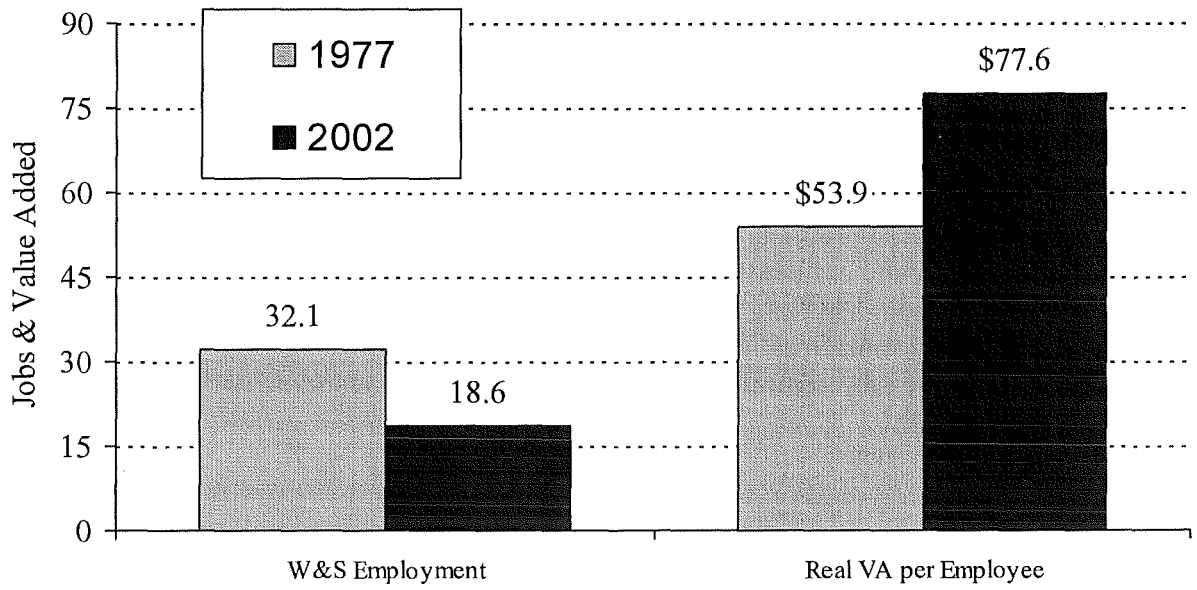
In spite of these price uncertainties, however, it is clear that because the forest industry is now so clearly global in its nature, continued pressures to get more product value per acre will continue to be the dominant force shaping Maine's forest land over the coming decade.

2. Cost Pressures on U.S. Producers

By and large, the wood products manufacturing facilities in the northeastern United States, compared to a worldwide average, are older and smaller, have higher labor costs, and have higher transportation costs because most new mills are located closer to their raw materials. Because of the high cost of supply, many Maine mills cannot compete with mills elsewhere in the United States and throughout the world. Several of these mills have shut down or endured major cutbacks in production over the past decade.

The consequence of this cost pressure has been to squeeze more value from each cord of timber harvested. Investment in capital equipment has enabled forest products businesses to generate more and more product per worker. As a result, the level of production in the industry has risen significantly over the past generation even while employment has been falling. Ironically, Maine's forest products businesses have remained competitive precisely because they have reduced the number of jobs while increasing production. Figure 10 illustrates this pattern quite clearly.

Figure 5-17: Indices of Productivity Growth, Maine, 1977 to 2002



Source: Bureau of Economic Analysis
W&S Empl. – Total Wage and Salary Employment (in thousands)
Real V.A. per Empl. – (in thousands of dollars) Real Value Added Per Employee is calculated by dividing the Gross State Product from lumber and paper manufacturing in Maine for 1977 and 2002 by the Gross National Product Implicit Price Deflator for those years.

In 1977, lumber and paper manufacturers in Maine provided wage and salary employment to 32,100 people. By 2002, that number had fallen by more than 40% to 18.600. Over the same period, worker productivity – meaning real value added per employee – had risen by nearly 44%, from approximately $54,000 per worker to nearly $78,000 per worker.[26]

In sum, the forest products industry in Maine has remained successful by continuously increasing its output per worker, largely by investing in newer technology and modernizing its facilities. This trend must continue if the Maine forest products industry is to remain viable. It points to the unlikelihood of forest products ever regaining the employment level of 30 years ago and, thus, of the critical need to find other forms of employment in the Rim Region if it is to achieve a degree of economic stability.

3. Industry Specialization: Separation of Land Ownership from Manufacturing

As a response to these cost pressures, the forest products industry both world-wide and in Maine has gravitated towards more specialized niches of the market. Louisiana Pacific sold its timberland holdings to focus on production of engineered lumber. Boise Cascade bought Office Max and intends to focus on selling paper to end-users. Georgia Pacific has moved toward consumer products such as tissue and paper cups. Weyerhaeuser has bought up rivals in an attempt to gain economies of scale in the ownership and operation of vast timberland holdings. Canadian companies have been merging into ever-larger companies that are poised to compete internationally.

As a result of this trend toward product specialization, many of the companies that owned large tracts of timberland in Maine have divested their timber holdings because they could obtain long-term contracts to buy lumber without the responsibility of owning and managing the timberlands and use the proceeds of land sales to finance their own particular strategic direction be it consumer products or niche acquisitions. As a result, land ownership has become increasingly separated from product manufacturing. Owning and managing timberlands has become its own niche market with its own players specializing in that area rather than a common requirement for all forest product companies. In Maine, this trend has been evident in the tremendous increase in sales of large tracts of land over the past decade. In recent years, more than one-quarter of the state's productive forestland has changed hands. Great Northern, Oxford and SAPPI, long-time large landowners in Maine, have all sold hundreds of thousands of acres of forestland to investors, land speculators, and land management companies, in effect outsourcing timber supply the way they might outsource payroll accounting.

More detail about these transactions will be included once TASK 3 of this project is complete.

[26] It is important to distinguish between value added as used here and what are often called value added products. The item measured in Figure 15 is the difference between the cost of goods coming into a mill (logs) and the value of the goods going out (lumber or paper). This difference is the value the workers add to the product. The more value the worker adds, the more the business can afford to pay and remain competitive on the world market. This is a different concept from value added products which generally mean products like furniture, toys, composite beams and other wood products that take wood farther along the production process toward finished goods.

The implications of this change in land ownership are not yet clear. However, it is clear that the old landowners had hundreds of millions of dollars invested in their wood products plants and therefore had an interest in maintaining a predictable flow of wood fiber to feed their operations. New landowners are less tied to growing timber for mills. Their interest in the land is to create a return on their investment. So long as the value of product that comes off an acre of land exceeds the value of selling the land for development or undertaking the cost of developing it directly, it will likely stay productive. If the value of selling land for development (or developing it directly) exceeds the value of managing it for manufacturing, the land will likely be sold. It is very important, therefore, to monitor the cost of current "best-practice" forestry management in light of the value of land for residential and recreational purposes. In particular, the value of developing "green forestry" certification standards as a tool for marketing Maine wood products takes on an added value in this "manage versus develop" equation.

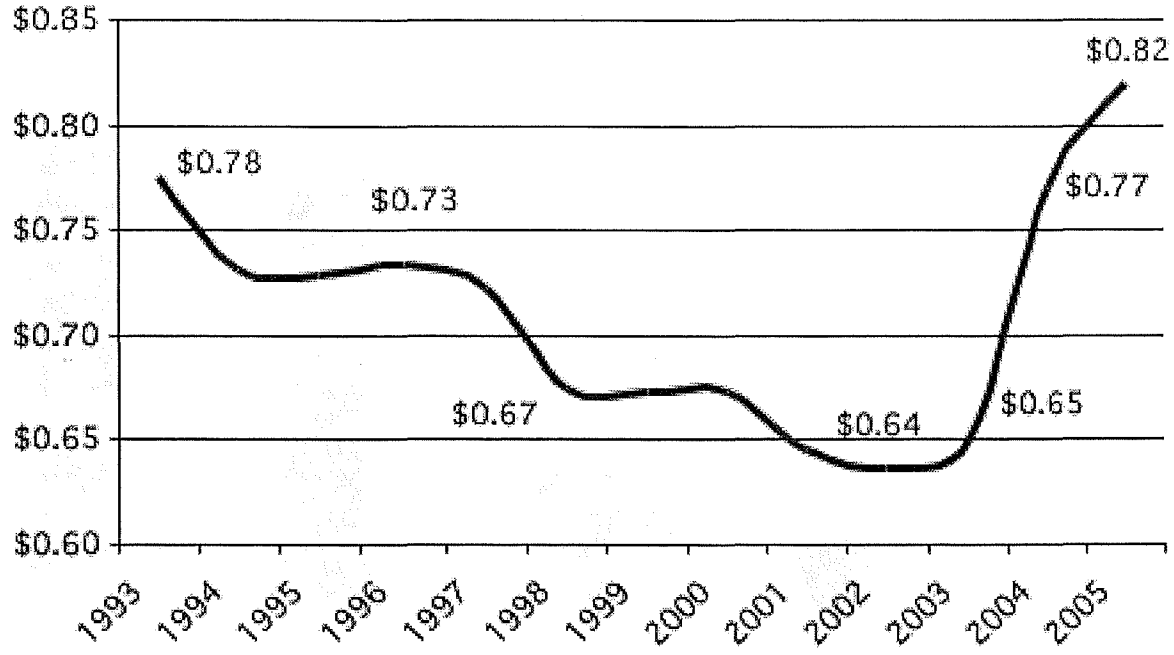
This changing pattern of ownership, when combined with the decline of newspaper readership, the movement of information and media sales to the internet and the continuing downward price pressure caused by growing global wood production, increases the likelihood that liquidation harvesting, second home development, and new forms of recreation will become more likely possibilities for Maine's north woods.

4. Strong U.S. Currency and Increased Imports

One of the most important factors affecting Maine's forest products industry is its extremely close linkage, geographically and culturally, to Canada. In many ways, northern Maine and Atlantic Canada are a single natural resource-based economy sharing common interests in fishing, potatoes, blueberries and forest products. The natural flow of products from growing locations to processing locations to final consumer markets is simply interrupted by an international border.

Unfortunately, this border brings with it separate currencies whose relative values are determined by factors that have very little or nothing to do with potatoes, blueberries, fish or lumber. Currency values are determined more by national fiscal, monetary and trade policies. The effects of these forces are reflected in the prolonged decline of the Canadian dollar relative to the U.S. dollar through the late 1990's and early 2000's (Fig. 5-18).

Figure 5-18: Price of the Canadian Dollar in U.S. Dollars, 1993 to 2005



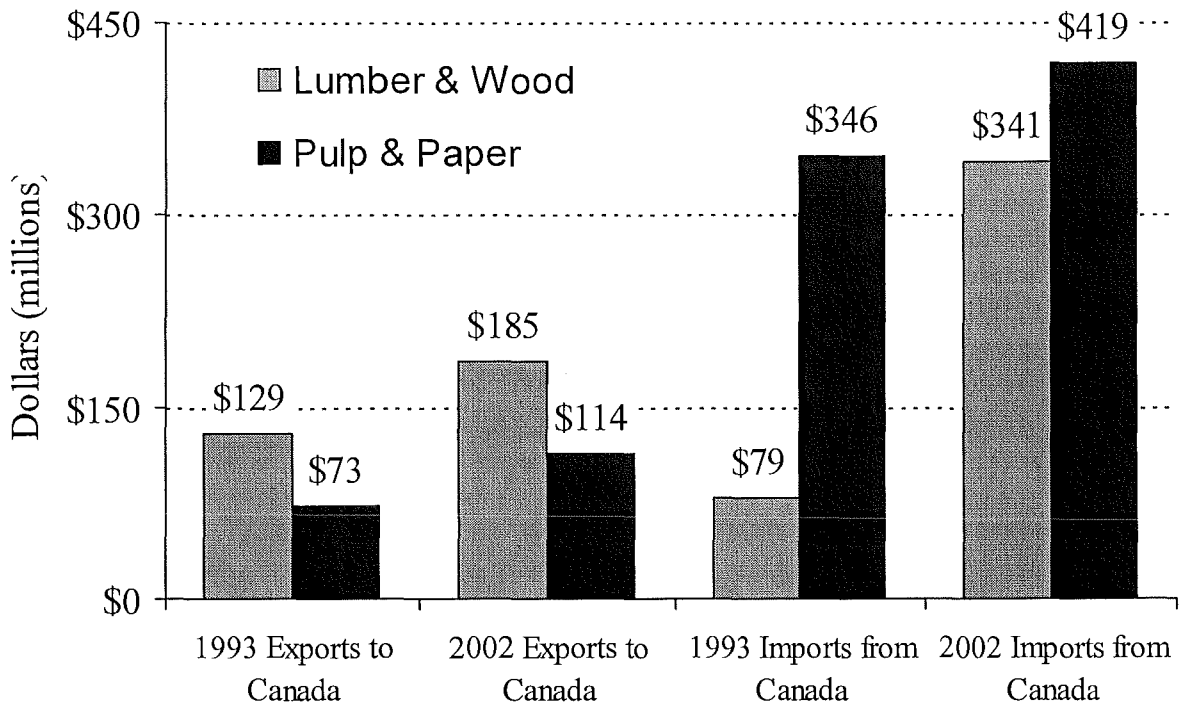
Source: Federal Reserve Board of Governors

As Canadian dollars decrease in value relative to US dollars, it becomes cheaper for US manufacturers to purchase raw and processed material from Canada. Throughout the 1990s and early 2000s, Maine imported an increasing array of forest products, particularly lumber, from Canada and exported fewer forest products to Canada. (Fig. 5-19).

Since it bottomed out at $0.64 in 2003, the Canadian dollar has strengthened dramatically. Again this is not because of anything that has happened in the forest industry, but more the result of the growing U.S. fiscal and trade deficits. As the US dollar weakens against the Canadian dollar, products from Maine should become more competitive on the international market. Recent weakness in the US dollar suggests that Maine products will become more competitive, but it is too early to see this trend in any of the available data.

One of the consequences of the relative decline in the value of the Canadian dollar until 2003 was a much faster rate of growth in Maine imports of forest products, particularly lumber, from Canada than in Maine exports of forest products to Canada. Figure 5-19 shows the changes in millions of U.S. dollars.

Figure 5-19: Maine Forest Products Trade with Canada, 1993 and 2002 ($ million)



Source: Maine International Trade Commission.

Maine and Canada's forest product markets will continue to be intricately linked. The exact nature of trade flows will tend to favor Maine more as long as the dollar continues to weaken, but the complexity of tariff restrictions—a subject of continuing debate between the two countries will play an equal role.

5. Wood and Non-wood Competition for Traditional Lumber

Technologically, Maine's traditional lumber and wood industries face two competitive alternatives. The first is from engineered wood products. These are substitutes for traditional lumber products made from scrap wood or sawdust combined with resins or adhesives. They include plywood, particle board, fiberboard and oriented strand board (OSB) that are commodities used primarily in the residential construction market and engineered composite products used in a wide variety of industrial and consumer markets from shipbuilding to residential decking.

Engineered wood products represent the fastest growing segment of the wood products business in the United States. It presents a major opportunity for Maine's forest industry The major constraint to this potential growth is that producers in the Northeast suffer from the same cost disadvantages in labor, energy and transportation that plague traditional lumber producers. Studies of existing plants as well as an extensive cost analysis of a potential investment in New Hampshire indicate that plants in the Northeast are and will continue to be well above the national average in operational costs.

Finally, it is clear that such plants can get their raw materials from all over the Northeast and thus do not necessarily have to be located near the forest. For this reason, such plants, while providing an outlet for some of Maine's forest resources, are not likely to grow to the level necessary to replace the jobs lost to the productivity revolution of the past generation in the rest of Maine's forest products industry.

The second competitive force affecting Maine's traditional lumber industries is the growth of plastic, steel and other substitutes for wood. While these substitutes have grown over the past decade, their penetration of traditional lumber markets will in the future be limited by their price changes relative to wood. Given recent trends in oil and steel prices, it seems likely that this movement toward substitution will be more limited in the future to specialty products where some form of technical superiority is sufficient to offset price changes that today favor wood.

6. Forest Products for Energy

Biomass energy plants are of two sorts. The first is associated with existing wood product processing facilities and uses waste material generated by processing to provide an alternative or supplement to conventional sources of heat and energy. The future of this form of wood product use will grow with the continuation of existing mills to re-engineer their facilities to make fuller use of their waste materials.

The second use of forest products for energy use is for stand-alone energy generation facilities. As an energy source, forest products depend on the prices of more conventional sources such as oil, gas and coal. As these prices rise, as they have over the past year, biomass electricity generation plants come on line. As oil and gas prices fall, as they did through the 1990's, biomass plants become cost prohibitive.

In the 1980's, government policies required utilities to pay costs related to what at the time were high oil prices. Because wood energy plants were able to obtain long-term contracts at what proved to be abnormally high prices, many new plants were built. Throughout the 1990's and early 2000's, oil prices fell, so when the long-run contracts expired, utilities did not renew them. As a result, many wood-fired energy plants closed. They have since reopened, but they do not provide a reliable demand because of their sensitivity to alternate fuel prices.

Because of the changing nature of regional energy pricing policies and the difficulty of retooling the boilers in Maine's plants, "Maine's existing wood-fired power plants will ... have significant difficulty in a competitive electricity market, and will provide an unstable wood market."[27] In short, wood to energy plants do not provide a major opportunity to replace any significant number of the jobs lost in the more traditional forest product industries over the coming decade.

7. Environmental Consciousness.

One factor affecting the demand for forest products separate from the prices of final products and the costs of production is the nature of the production process. Increasingly, consumers and

[27] Future Forest Study, p. 146.

businesses are interested in purchasing products that have been produced in environmentally friendly ways. The rise of so-called "Green Building Principles" has led to increased use of recycled products, products harvested close to the building site, and greater interest in sustainable forest products.

Such environmental consciousness should be a boon to Maine's forest products industry because its long-term health depends on moving to sustainable forest practices. The Maine Forest Service's 50-year projection of timber supply in Maine concluded that "the current rate of growth in Maine's forests cannot sustain indefinitely the current level of timber harvest."[28]

Nevertheless, it also said that Maine's forest could achieve growth-harvest balance by increasing growth through "improved partial harvesting techniques and increasing the number of acres under high-yield silvicultural practices to a cumulative total of 9% of Maine's forest land by the year 2015."[29]

In short, harvesting its wood in a more sustainable way could both open more markets for Maine industry and help insure its long-term survival.

8. Land Demand for Non-Wood Product Uses

Apart from the global forces of supply and demand for wood products, the greatest external force acting on Maine's hinterland is the rising demand from sprawl, second home development and tourism. This recreational and residential demand for forestland poses two central questions for the Land Use Regulation Commission:

1. Do these demands reduce the land's availability for logging and manufacturing?; and
2. Can these demands offset the employment loss resulting from increased productivity in logging and forest related manufacturing?

Those supporting increased recreation and residential development answer with an emphatic "No!" to question 1 and an emphatic "Yes" to question 2. They argue that the long-run forces of global supply and demand summarized above condemn Maine's forest-dependent communities to a slow but inevitable decline. Increased harvesting will simply accelerate the resource depletion indicated in the Maine Forest Service's timber supply projections and the pressures to cut costs and increase productivity will ensure that even those mills that are successful and do survive will never again employ the numbers of people that they have in the past. In contrast, they argue, tourism will continue to grow with the general growth of the economy and that, with proper development and marketing, such growth can maintain an economic vitality in the LURC region that will otherwise disappear.

Opponents of such proposals answer with an equally emphatic "Yes" to question 1 and "No" to question 2. They point to the experience of the Pacific Northwest where concerns for the possible extinction of the spotted owl led to restrictions on logging and the resultant closing of

[28] Maine Forest Service Timber Supply Outlook for Maine: 1995-2045, p.1, http://www.ume.maine.edu/~MIAL/maine_cd/tertiary_page/frontiers/timber_supply_outlook/timsupplysoutlook
[29] Ibid.

many mills, loss of many jobs and devastating impact on neighboring communities. They argue that increased tourism and residential development takes a large portion of the Maine forest out of production and the breaking up of large lots into many small lots whose owners are likely to be unsympathetic to traditional wood harvesting will ultimately create the same effect – a reduction in the amount of forestland available for harvesting and a dramatic change in the traditional character and values of the region. In addition, they argue, the recreational development proposed for northern Maine amounts to nothing more than rural sprawl. It will provide a "playground" for rich people "from away" but no significant new jobs for current residents.

Which of these scenarios proves correct will depend primarily on the nature of future tourist activity and development.

Traditionally, recreation in the northern Maine interior has been small scale and scattered--fishing, hunting, hiking undertaken from scattered camps by relatively small numbers of people. Over the recent past, however, the nature of this activity has changed dramatically. For example, the number of hunting and fishing permits issued each year by the State of Maine has been decreasing, while other activities have become increasingly popular.

In his paper on tourism for the Blaine House Conference on Natural Resources, David Vail enumerated four major problems confronting the tourism industry with respect to the Northern Forest region of Maine:

- the lack of a brand image or destination driver;
- the heavy dependence on the automobile (92% of tourists);
- the heavy dependence on day-trippers (80% of trips); and
- a large proportion of marginally profitable businesses that are unable to pay livable wages and thus have minimal impact on local economic vitality.[30]

In short, Vail argues, tourism in its traditional form—lots of small Mom & Pop businesses depending on short term day trippers will never replace the jobs that have been and will continue to be lost in the forest products industry.

To overcome these problems, Vail proposed a five-step action plan:

- develop a recreational master plan for public lands and easements;
- develop an ecotourism certification program;
- integrate natural attractions with cultural and heritage attractions;
- lure first time visitors with major summer events; and
- create a business assistance program to improve the managerial capacities of tourist business owners.

Both the weaknesses of the region's current tourist businesses and the action items designed to overcome them point to the importance of destination resorts. To overcome the absence of a

[30] David Vail Sustaining Nature-Based Tourism in "Vacationland" Prepared for the Blaine House Conference on Natural Resource-based Industries, November 17, 2003. http://www.state.me.us/spo/natural/gov/

North Woods brand and the dependence on scatterings of day tripping automobile drivers, the region needs to get people to a limited number of places by means other than automobiles and then get them to stay by having sophisticated and confidence-inspiring businesses offer them a variety of packages of things to do over 3 to 14 day stays.

The central challenge facing LURC with respect to tourism, therefore, is to establish a process for determining the key locations to develop as destinations and to coordinate this with landowners who want to maintain an active forest products industry.

Nowhere is this need more eloquently stated than in Thomas Michael Power's study of the relationship between rural recreation activities and overall economic vitaliy:

> "Local economic vitality requires that new types of economic activity regularly develop and take the place of jobs lost to the natural aging of older sectors.... To retain as many of its unique qualities and values as it can in this dynamic process [a community] needs to focus on those social and cultural values, not on preserving the particular set of economic activities that supported the population in the past."[31]

5e. Conclusion

The LURC economy can probably be best understood in terms of a matrix listing the economy's customers—those who want its products and services—and the economy's businesses—those who produce and supply those products and services. Figure 5-21 presents that matrix in very simple form.

Column one lists the LURC economy's customers, the sources of demand for its products. These are divided between customers for physical products—largely paper, lumber and food—and customers for services—basically seasonal residents and tourists. The next three columns list the various types of businesses within the LURC economy—industrial suppliers catering to the businesses meeting the final customer demand, local trade and services catering to local residents and tourist oriented businesses catering to visitors.

Each cell in the matrix describes how each customer supports the various categories of local business. Paper mills, for instance, create high levels of demand for local suppliers such as loggers, mechanical suppliers, chemical vendors, repair shops etc. Through their payroll, paper mills also create high demand for local trade and services such as banks, grocery stores, laundromats, etc. They create relatively low demand for hotels, motels, restaurants and entertainment services. Smaller, regionally oriented producers such as dairy and vegetable farmers and wood and other crafts producers generate moderate demand for industrial suppliers.

[31] Thomas Michael Power The Economic Impact of the Proposed Maine Woods National Park and Preserve September 2001.

Finally, the demand arising from the various categories of visiting customers creates its own impact on the structure of local businesses. Seasonal residents, for example, for the time they are living in their camps or second homes are likely to generate demand similar to that of mill workers. Day trip tourists will spend money in a hotel/motel, a restaurant and perhaps some shops and gas stations. Destination visitors will spend more depending on what sort of activities they choose to undertake.

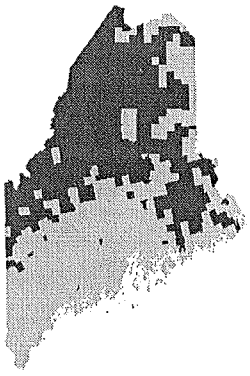
Figure 5-20: The Demand Supply Structure of the LURC Economy

Customers/Source of Demand	Industrial Suppliers	Local Trade & Services	Hotels, Motels Restaurants, Shops
1. Natural Resource Products			
World Market			
Paper	high	high	low
Lumber	high	high	low
Food	high	high	low
Local/Regional Market			
Food	medium	medium	low
Crafts	medium	medium	low
2. Services			
Day Trip Tourists	low	low	high
Seasonal Residents	low	medium	medium
Destination Tourists	medium	low	high

The future of the LURC economy is largely the working out of the implications of diminishing or more slowly growing demand for the natural resource product sector of the LURC economy and growing demand for the services section. The central challenge to LURC commissioners is to help residents, neighbors, visitors and policy makers recognize the choices implicit in this structural change and help articulate the options so that people can make the best informed decisions.

The central questions that this process must address are:

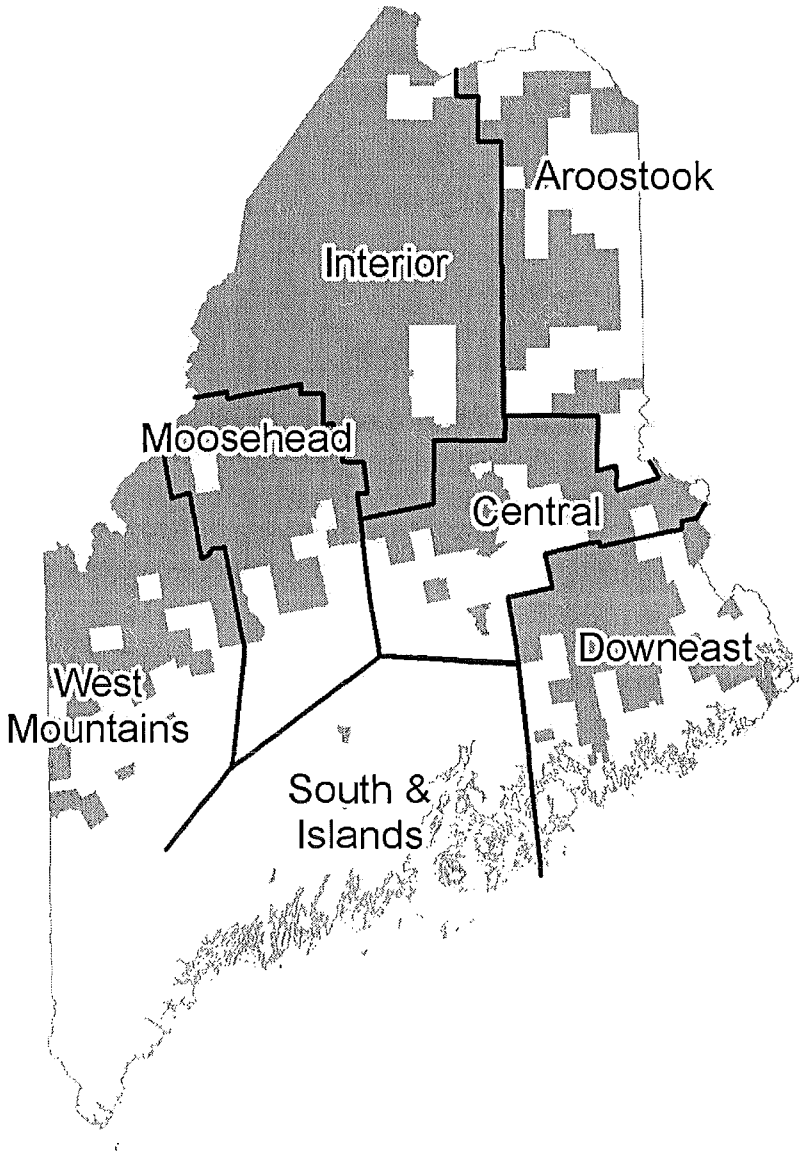
- ✓ To what extent must timber-growing land be protected to maintain the viability of Maine's forest product industry?
- ✓ To what extent must perceived wilderness areas be preserved to maintain "fundamental Maine values?"
- ✓ Does unplanned, sprawling, incremental development of LURC lands threaten either of the above two values?
- ✓ Should the state of Maine undertake an explicit policy to develop destination tourism as a way to provide alternative sources of employment in the Rim County region where earnings and employment have been stagnant for over a decade and where population has been declining?
- ✓ If the answer to the above question is "Yes," how should LURC regulations be adjusted to assist in achieving that policy goal?



Section 6.

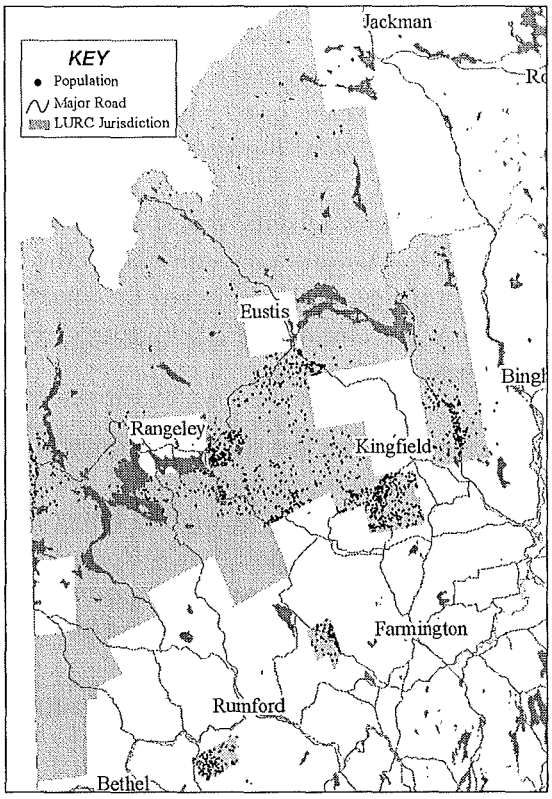
Region by Region Summary

This section summarizes the population and demographic changes, land ownership changes, and changing pattern of land use by major region.



Western Mountains

Includes Oxford and Franklin counties. Surrounds the seasonal communities of Bethel, Rangeley, and Carrabasset Valley. Rumford, Farmington, and Skowhegan are population centers in the area.

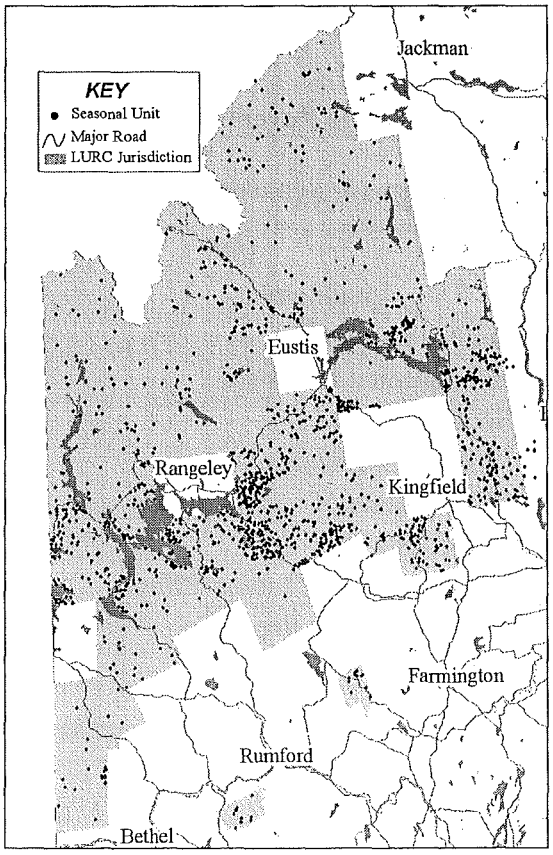


Population, 1990 to 2005:

- 2,107 to 2,635 (21% growth)
- Largest year-round population in jurisdiction,
- Year-round population tends to be clustered around fringe communities along southern jurisdiction, Rangeley, Kingfield, and Carrabasset Valley/Eustis.

Housing Units, 1990 to 2000

- 3,278 to 3,973 (21% increase)
- 70% of all housing units were for seasonal use
- Year-round housing grew at a faster rate than seasonal housing (19% seasonal unit growth)
- Seasonal units spread throughout region, but concentrated around Rangeley, Flagstaff, and Bethel
- Housing units are large, averaging 4.9 rooms, compared to jurisdiction average of 4.3 rooms.
- Housing units tend to be newer



Demographic Characteristics, 2000

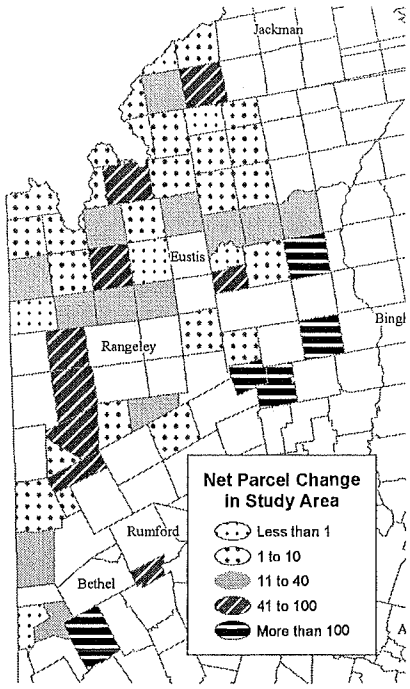
- Age profile matches jurisdiction as a whole
- Has householders that are more likely to move (56% have moved since 1990)
- Home values are very high (13% are worth more than $200,000)
- Large number of residents work in arts, entertainment, and recreation
- Likely to have short commute to work
- High education attainment for population over 25 years

Pattern of Ownership, '85 to '05

Between 1985 and 2005, the Western Mountains had a net increase of 678 land accounts. This represents 21% of the study area's new accounts.

New accounts activity was spread across the region, but largely concentrated in the communities on the fringe of the study area – Albany, Freeman, and Lexington as well as in the Rangeley Lakes area.

Please note that the study area does not include the fast-growing plantations and townships immediately around Rangeley Lake, including Dallas, Rangeley, and Sandy River plantations. Housing units in these three communities alone grew by 24% between 1990 and 2000 (Census).



Ownership Change in Western Mountains Study Area, 1985 to 2005				
	1985	2005	Change	% Change
Total Land Account	2,176	3,420	704	26%
Total Leaseholds	473	447	-26	-6%
Large Land Account (>200 acres)	275	270	-5	-2%
Total Parcels	3,406	4,391	985	29%

Source: Maine Revenue Services; Planning Decisions, Inc.

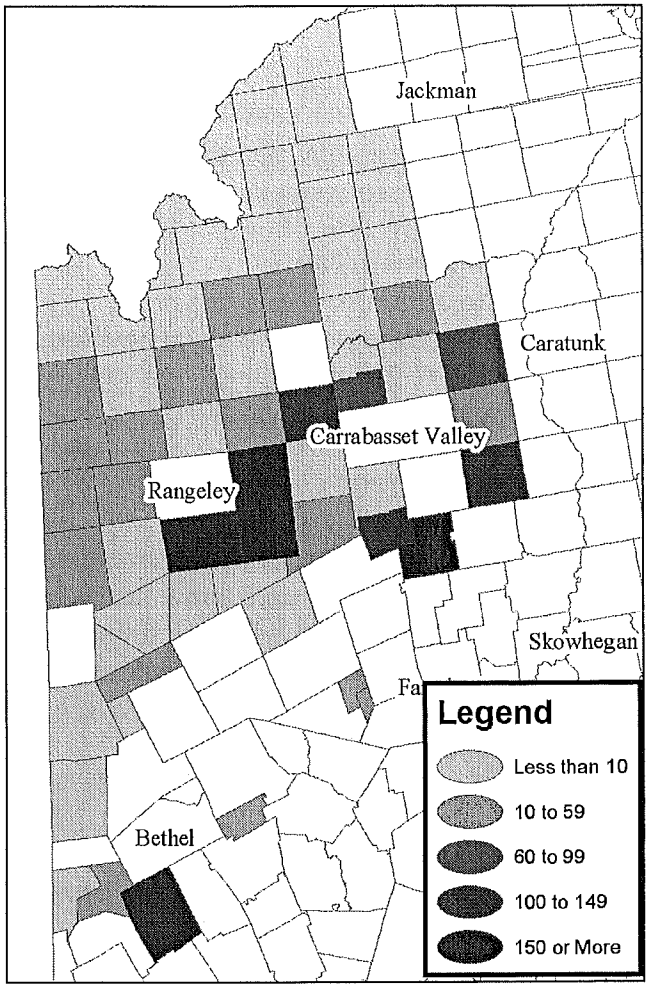
Ten Largest Landowners in Western Mountains Study Area

1985		2005	
Landowner	Acres	Landowner	Acres
Oxford Paper Co	259,693	Bayroot LLC	251,457
International Paper Co	240,961	SP Forest LLC	213,235
Scott Paper Co	161,314	Plum Creek Land Co	158,245
Pingree Associates	127,982	Maine, State of	140,406
Maine, State of	116,293	Pingree Associates Inc	126,538
United States	30,799	United States	35,885
Passamaquoddy Indian Tribe	26,070	Frontier Forest LLC	30,493
Hudson Pulp & Paper Co	26,029	Passamaquoddy Indian Tribe	26,070
Great Northern	25,787	Penobscot Indian Nation	23,027
Penobscot Indian Nation	23,035	Domtar Industries Inc	17,689

Changing Pattern of Land Use, '72 to '05

The Western Mountains Region had the greatest demand for residential development in the jurisdiction. This region accounted for 30% of all the building permits issued between 1972 and 2005.

Nine MCDs in the jurisdiction had more than 150 building permits; five of these were in the Western Mountains (Rangeley Plt, Dallas Plt, Albany, Sandy River Plt, and Freeman). Another three communities (Coplin Plt, Salem, and Lexington) had more than 100 permits. Much of this demand has been in the Rangeley area and along the southern boundary of the jurisdiction.



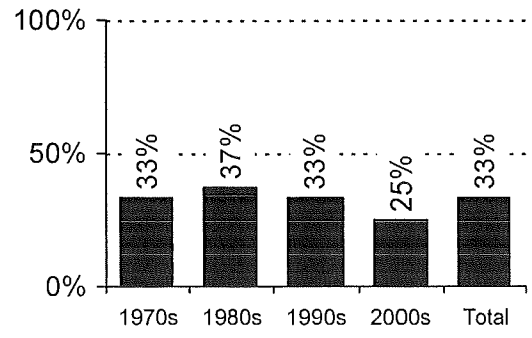
Nearly all of the development in this region is near a road.

- 37% of the permits are within 1,500' of a primary or secondary road (such as Routes 4, 5, 35, 142 and 145)
- 59% are on a local or unimproved road
- 4% are not near a road corridor

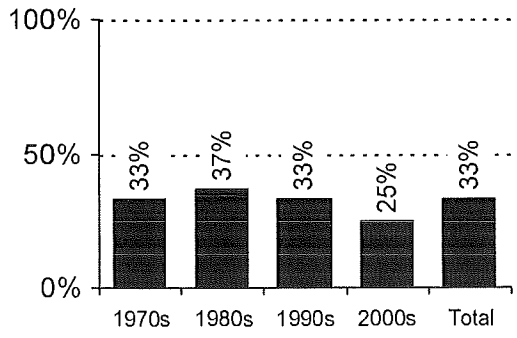
One of every three building permits is issued for parcels within 500' of a water body. This is the lowest in the jurisdiction and appears to be declining since the 1980s.

One of every three building permits is issued for a seasonal housing unit. The percent of buildings with seasonal characteristics has been declining since the 1980s.

Building Permits Issued for Parcels within 500' of Water Body, 1972 to 2005



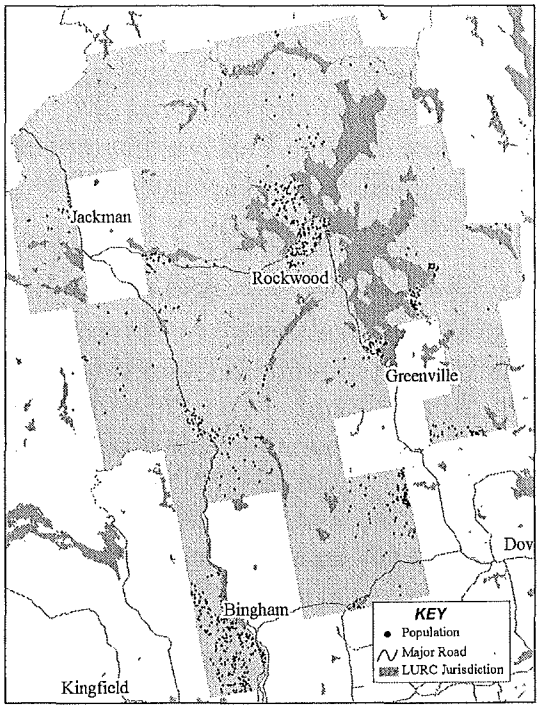
Permits w/ Seasonal Characteristics, '72 to '05



Source: LURC Records, Planning Decisions, Inc.

Moosehead

Includes Somerset and portions of Piscataquis counties. Surrounds the seasonal communities of Jackman and Greenville. Skowhegan and Dover-Foxcroft are the centers in the area.



Population, 1990 to 2005:

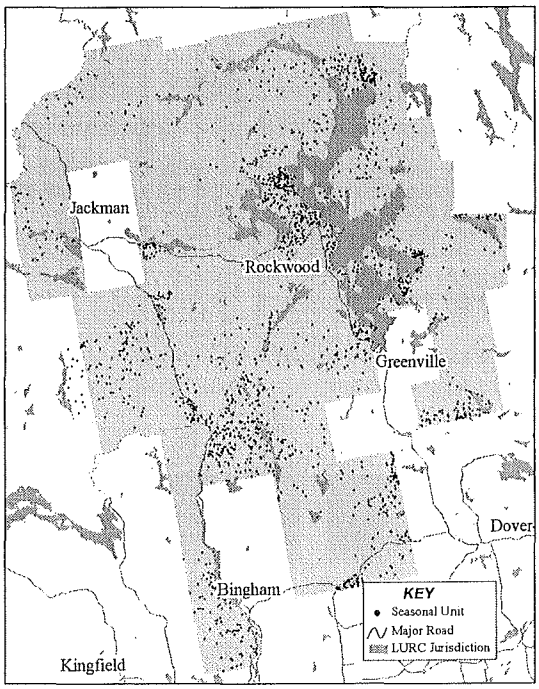
- 1,042 to 1,187 (14% growth)
- Year-round population tends to be close to roads along Route 201 and Route 6, as well as along the shores of Moosehead Lake.

Housing Units, 1990 to 2000

- 3,082 to 3,629 (18% growth)
- 81% of all housing was for seasonal use
- Year-round housing units grew faster than seasonal housing (14% growth for seasonal units)
- Seasonal units spread throughout region, but centered around Rockwood, Greenville, along Route 201, and around the shores of Moosehead Lake
- Housing units tend to be newer (23% were built in 1990s)

Demographic Characteristics, 2000

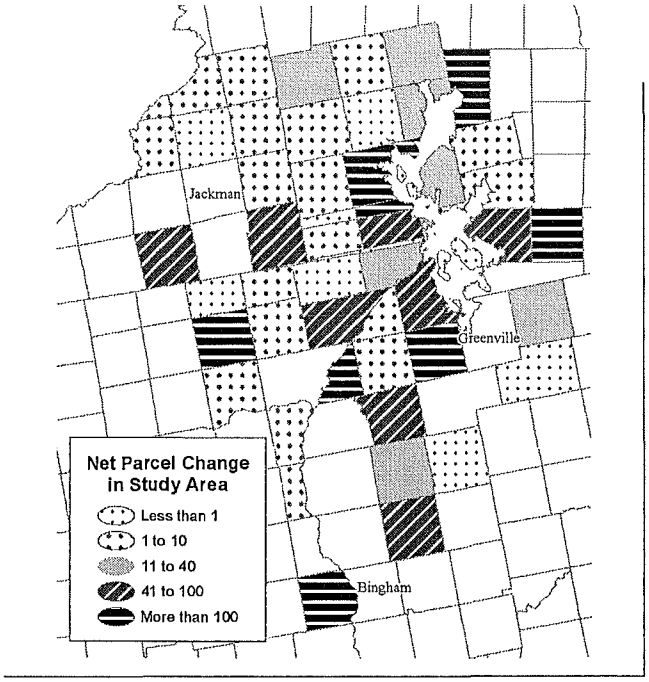
- Has older age profile (18% of residents are over 65 years) compared with jurisdiction (15%) and state of Maine (14%)
- Householders tend to be older (49% are 55 years and over) compared with jurisdiction (42%)
- Has householders that are more likely to move (43% have moved since 1995) compared with jurisdiction (32%)
- In 2000, 11% of householders had moved to region from outside of Maine since 1995
- Relatively high household incomes (12% earned more than $75,000 in 1999
- Household income more likely to be from self-employment, property (interest, dividends, rent), social security, and retirement income
- Home values are high (9% are over $200,000)
- Poverty levels are higher than average, especially among those 65 and over
- Relatively small household population size
- Large number of 1- and 2-person households (70% of all households)
- High education attainment for population over 25 years



Pattern of Ownership, '85 to '05

Between 1985 and 2005, the Moosehead study area had a net increase of 1,246 land accounts. This represents 39% of the new accounts in the entire study area.

Two patterns in new accounts are apparent. The Route 201 corridor grew rapidly, especially Concord and Upper Enchanted townships and Moxie Gore (LURC data suggests much of this activity was the result of subdivision exemptions). These new accounts are more likely year-round residents spreading out from population centers in the region. The shores of Moosehead Lake also grew rapidly, which are more likely to be seasonal homes.



Ownership Change in Moosehead Study Area, 1985 to 2005

	1985	2005	Change	% Change
Total Land Account	1,805	3,486	1,681	93%
Total Leaseholds	750	318	-432	-58%
Large Land Account (>200 acres)	194	193	-1	-1%
Total Parcels	2,371	4,428	2,057	87%

Source: Maine Revenue Services; Planning Decisions, Inc.

Ten Largest Landowners in Moosehead Study Area

1985			2005	
Landowner	Acres		Landowner	Acres
Scott Paper Co	417,682		Plum Creek Land Co	456,532
Great Northern	149,554		Maine, State of	87,568
Oxford Paper Co	59,365		Merriweather LLC	62,902
Coburn Lands Trust	50,285		Bayroot LLC	46,922
International Paper	44,748		SP Forest LLC	45,801
Louis Hilton	39,457		Carrier Timberlands LLC	37,217
Maine, State of	34,702		East Middlesex Canal LLC	29,174
Central Maine Power	31,196		Great Northwoods LLC	24,958
Diamond International	22,847		Louis Hilton	22,852
Dyer Resources	20,461		Passamaquoddy Indian Tribe	21,421

Changing Pattern of Land Use, '72 to '05

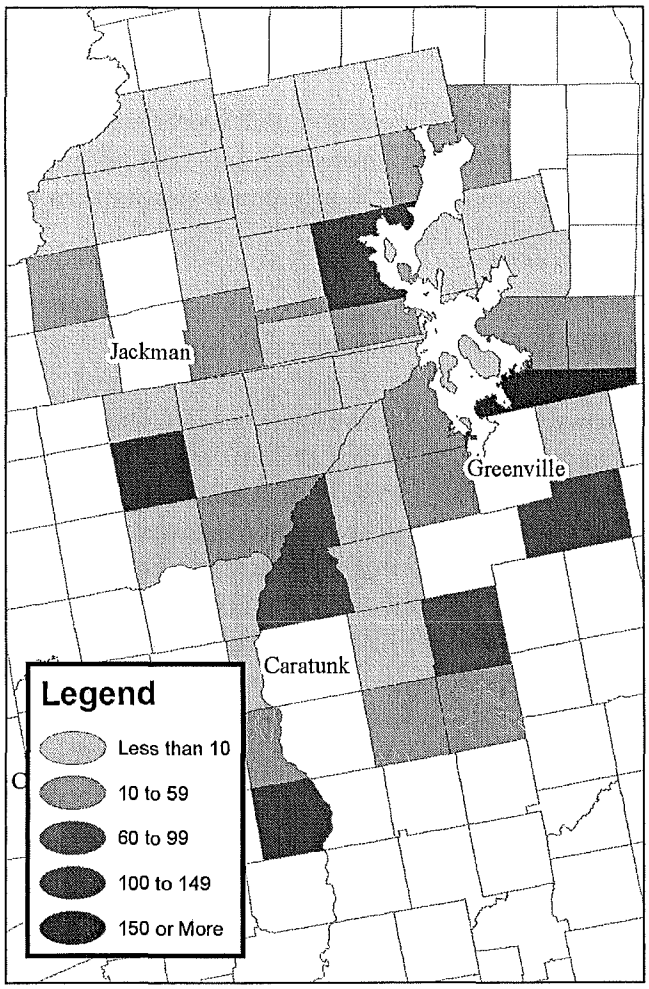
The Moosehead Region accounted for one in every five new residential units in the jurisdiction. New development has occurred along the Route 201 corridor and around the shores of Moosehead Lake.

The Town of Beaver Cove had more than 150 new building permits, while Tomhegan Twp, Upper Enchanted Twp, Rockwood Strip, and Concord Twp each had more than 100 permits.

Four of every five new permits are near a road. This region has relatively few building along major roads because there is relatively little developable land in these corridors

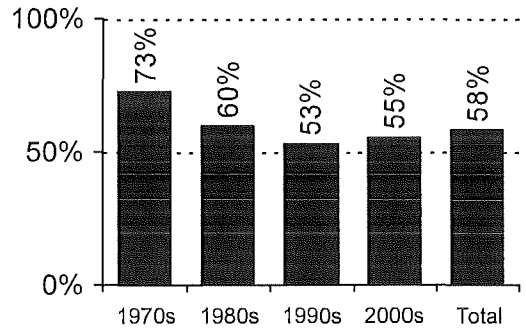
- 26% of the permits issued are on parcels within 1,500' of a primary or secondary road (Routes 201. 6/15, and 16).
- 53% are on local or unimproved roads
- 21% are not near a road corridor.

Nearly three of every five units is located near a body of water. However, this number has decreased steadily from more than 70% in the 1970s.

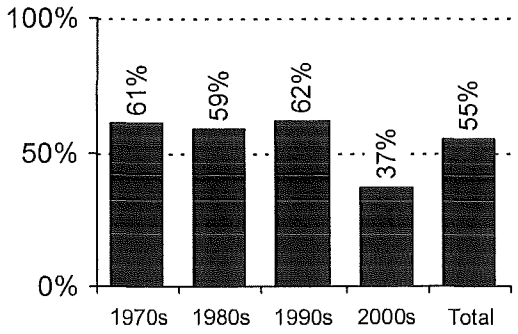


The number of permits issued for dwellings with seasonal characteristics was stable through the 1990s and has decreased significantly between 2000 and 2005. This suggests that the dwellings now being built in this jurisdiction have year-round characteristics (foundations, indoor plumbing, etc) even though these new structures might be used on a seasonal basis.

Building Permits Issued for Parcels within 500' of Water Body, 1972 to 2005



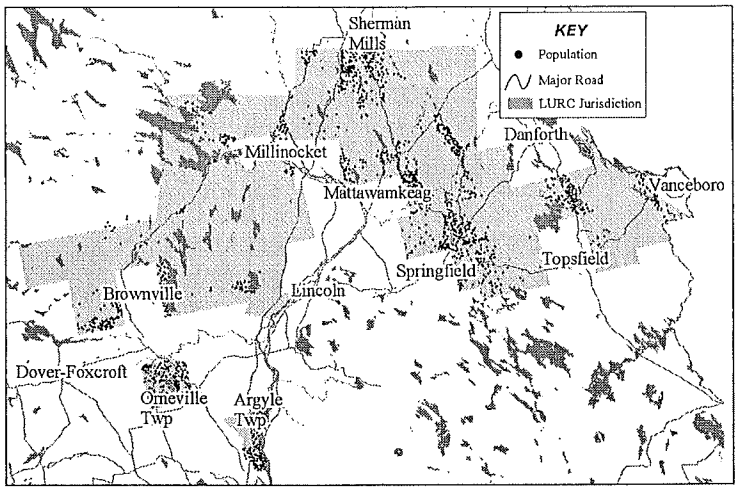
Permits w/ Seasonal Characteristics, '72 to '05



Source: LURC Records, Planning Decisions, Inc.

Central

Includes southern Piscataquis, Penobscot, and Aroostook counties and northern Washington County. Includes reaches from Dover-Foxcroft to Canadian border near Vassalboro. Interstate 95 and Route 1 run through the middle of the region. Near the major population centers of Millinocket and Lincoln.



Population, 1990 to 2005:

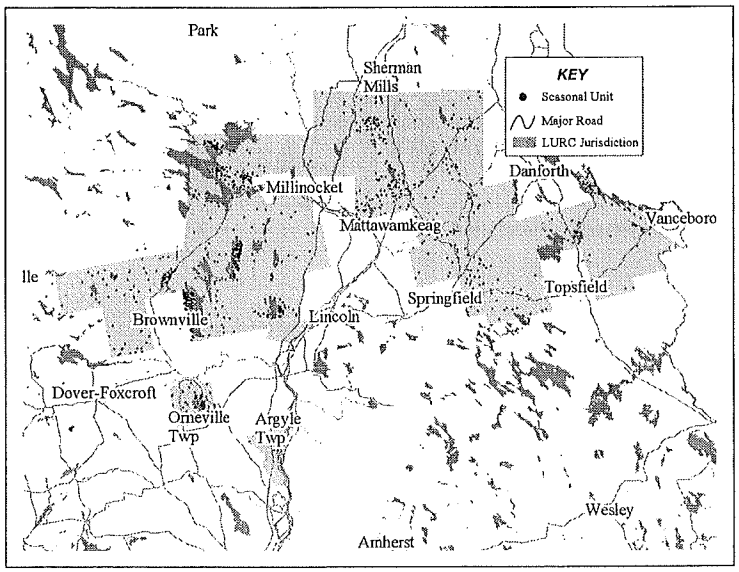
- 2,931 to 3,068 (5% growth)
- Population is concentrated in Argyle and Orneville townships in the south, and is spread along the collector roads throughout the region near Springfield, Topsfield, Danforth, Sherman Mills, Mattawamkeag, and Millinocket.

Housing Units, 1990 to 2000

- 3,636 to 3,766 (3% growth)
- 63% of housing units are seasonal units
- Seasonal units grew at a faster rate than year-round units (5% seasonal unit growth)
- Seasonal units clustered around lakes near Brownville, Millinocket, and Mattawamkeag
- Units tend to be older, larger share of the units were built before 1980

Demographic Characteristics, 2000

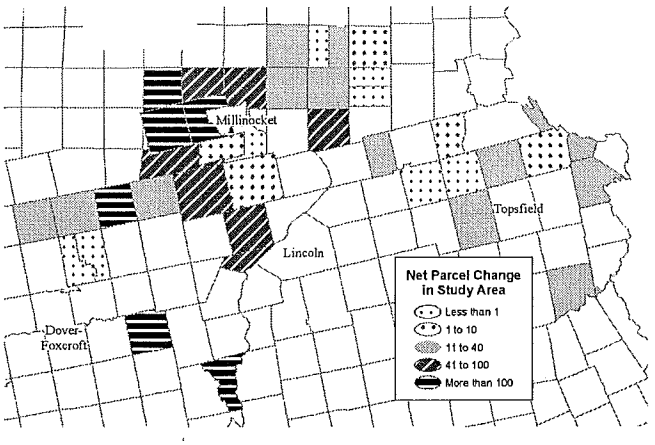
- Has more younger families, fewer seniors
- Age of householder is younger than rest of jurisdiction
- Has very high owner-occupied rate (92% of all households are owner-occupied)
- Has relatively low house values (86% below $100,000)
- Average persons per household is high (2.48)
- Has few 1-person households
- Has high poverty rate (16% of residents below poverty level)
- Not as much formal education (only 25% have college education versus 35% for jurisdiction)
- More likely to work in manufacturing, natural resource, and transportation industries



Pattern of Land Ownership, '85 to '05

Between 1985 and 2005, the Central study area had a net increase of 304 land accounts. This represents 10% of the new accounts in the entire study area.

Most of the new account activity occurred around Millinocket. The more accessible communities of Orneville and Argyle also added new land accounts at a modest rate. The Millinocket area also experienced a significant increase in land account activity. The areas around Brownville and Seboeis added new land accounts rapidly.



Ownership Change in Central Study Area, 1985 to 2005				
	1985	2005	Change	% Change
Total Land Account	1,843	2,448	605	33%
Total Leaseholds	1,641	1,340	-301	-18%
Large Land Account (>200 acres)	149	147	-2	-1%
Total Parcels	2,413	3,330	917	38%

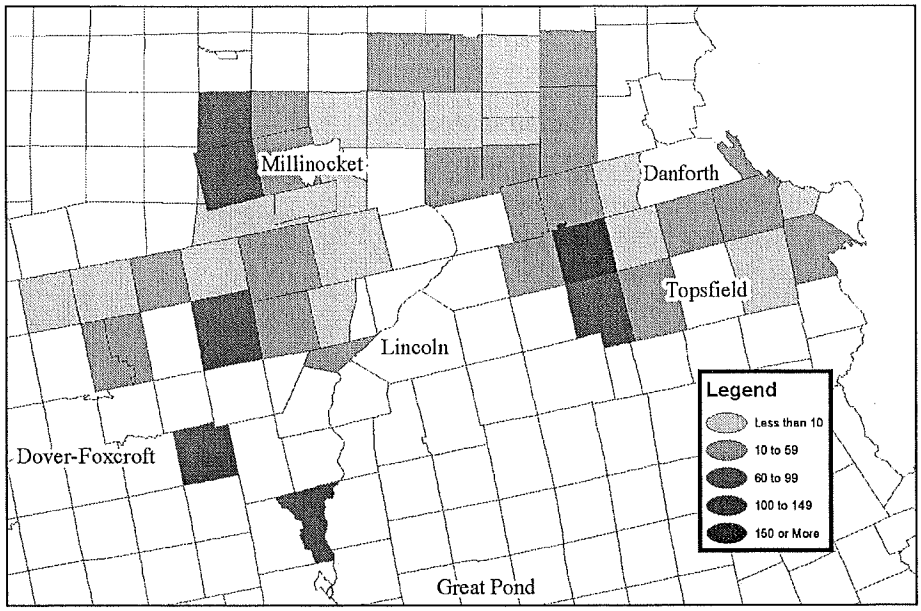
Source: Maine Revenue Services; Planning Decisions, Inc.

Ten Largest Landowners in Central Study Area

1985		2005	
Landowner	Acres	Landowner	Acres
Great Northern	127,961	Katahdin Forest Manage. LLC	112,363
Webber Timberlands	83,117	SP Forest LLC	85,055
Champion International	76,658	Forestree 96 Ltd Partnership	57,219
JM Huber Co	64,489	Typhoon LLC	44,896
Diamond International	57,030	Penobscot Indian Nation	39,285
International Paper Co	44,500	Webber Timberlands	37,469
ST Croix Pulpwood Co	36,023	Baskahegan Co	35,430
Oxford Paper Co	34,921	Bayroot LLC	35,404
Penobscot Indian Nation	27,420	Lakeville Shores Inc	28,320
Maine, State of	21,121	Great Lakes Hydro LLC	24,044

Pattern of Land Use, '72 to '05

The Central Region accounted for approximately 16% of the new building permits. Prentiss Township had more than 100 building permits, and Lakeview Plt, Orneville Twp, and Carroll Plt each had between 90 and 100 permits.



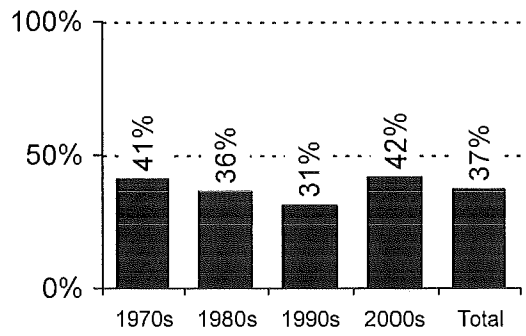
Nine of every ten new permits are near a road. The large number of primary and secondary roads in this region increases the likelihood that development occurs along primary and secondary roads.

- 52% of the permits issued are on parcels within 1,500' of a primary or secondary road (Routes 1, 2, 4, 11, 169, and 170).
- 37% are on an local or unimproved road.
- 11% are not near a road corridor.

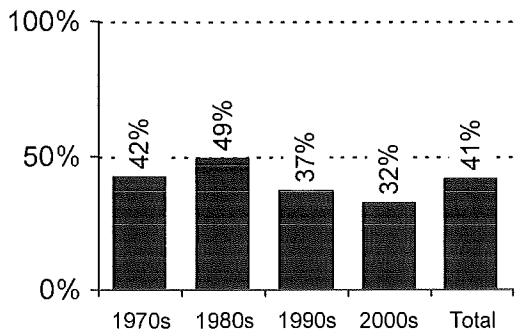
Four in every ten permits are issued for parcels within 500' of a water body. These tend to be clustered around Millinocket and Brownville and up the Route 2/2a corridor.

Four in every ten permits are for dwellings with seasonal characteristics. This number peaked at 49% in the 1980s and has been decreasing since then.

Building Permits Issued for Parcels within 500' of Water Body, 1972 to 2005



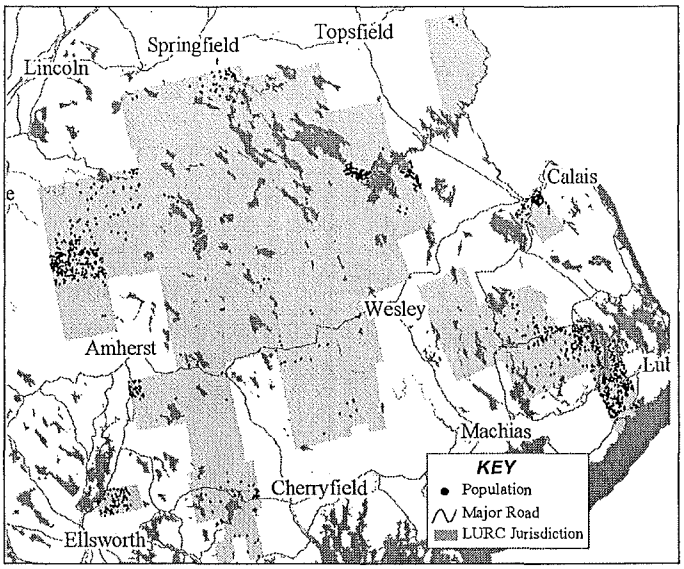
Permits w/ Seasonal Characteristics, '72 to '05



Source: LURC Records, Planning Decisions, Inc.

Downeast

Includes portions of Hancock and Washington counties. Includes lands within Route 1 to the south and east, Route 6 in the north, and Interstate 95 in the west. Route 9 between Bangor and Calais runs through the middle of the Downeast region.



Population, 1990 to 2005:

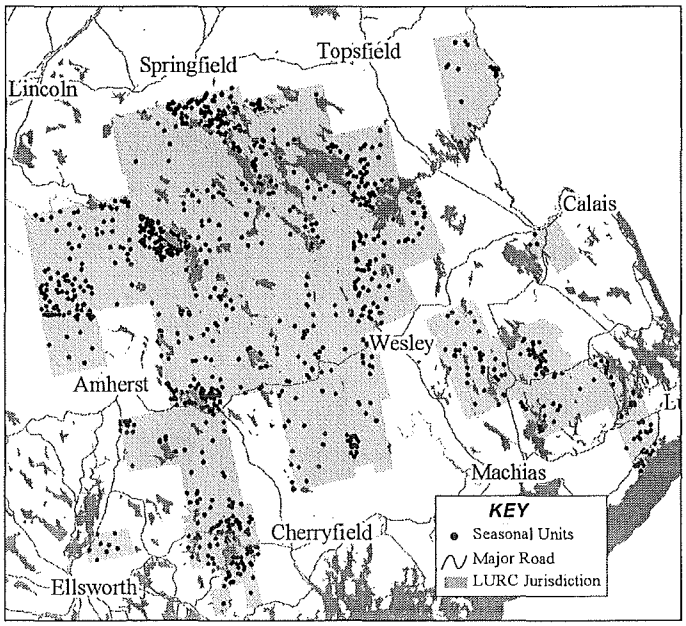
- 1,944 to 2,146 (10% growth)
- Second largest population growth in the jurisdiction
- Population is concentrated in Route 1 corridor between Lubec and Dennysville; near Calais; along the Route 179 corridor; in Greenfield, and in Grand Lake Stream.

Housing Units, 1990 to 2000

- 2,191 to 3,009 (37% growth, highest in jurisdiction)
- 67% of housing units are seasonal units
- Seasonal units grew faster than year round units (48% growth in seasonal units)
- Seasonal units spread throughout region, but clusters around Grand Lake Stream, Pleasant Lake, Nicatous Lake, and Aurora
- Units are a mix of newer (built since 1980) and older (built before 1940)

Demographic Characteristics, 2000

- Has more younger residents and fewer senior residents
- Has largest average household size
- Householders tend to be younger
- Very mobile population (more than one-half moved in since 1990)
- More reliant on wages and salaries
- Approximately 1/5 of population is below poverty level (largest in jurisdiction)
- Owner-occupied housing units are inexpensive (80% below $100,000)
- Well-educated population
- More likely to work in construction and education/health/social services industries

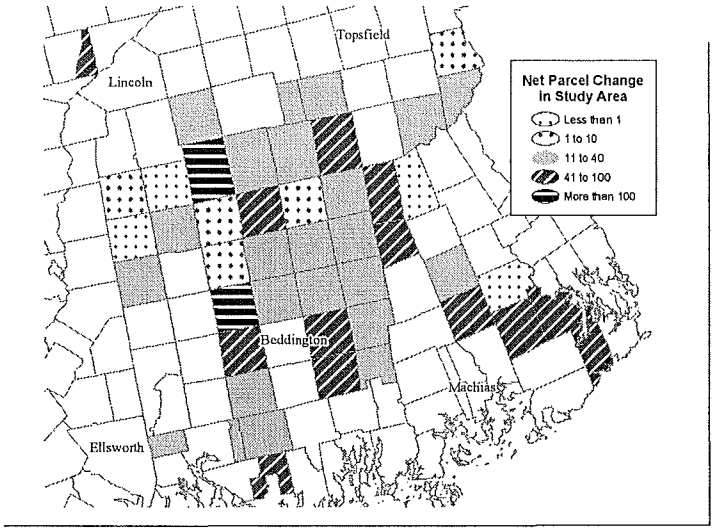


Pattern of Land Ownership, '85 to '05

Between 1985 and 2005, the Downeast study area had a net increase of 463 land accounts. This represents 15% of the new accounts in the entire study area.

The new account activity was widespread, but largely occurred around Beddington and between Machias and Lubec.

SP Forest LLC, the region's largest landowner in 2005 is operationally related to Champion International.



Ownership Change in Downeast Study Area, 1985 to 2005				
	1985	2005	Change	% Change
Total Land Account	1,867	2,480	613	33%
Total Leaseholds	942	792	-150	-16%
Large Land Account (>200 acres)	181	186	5	3%
Total Parcels	2,243	3,139	896	40%

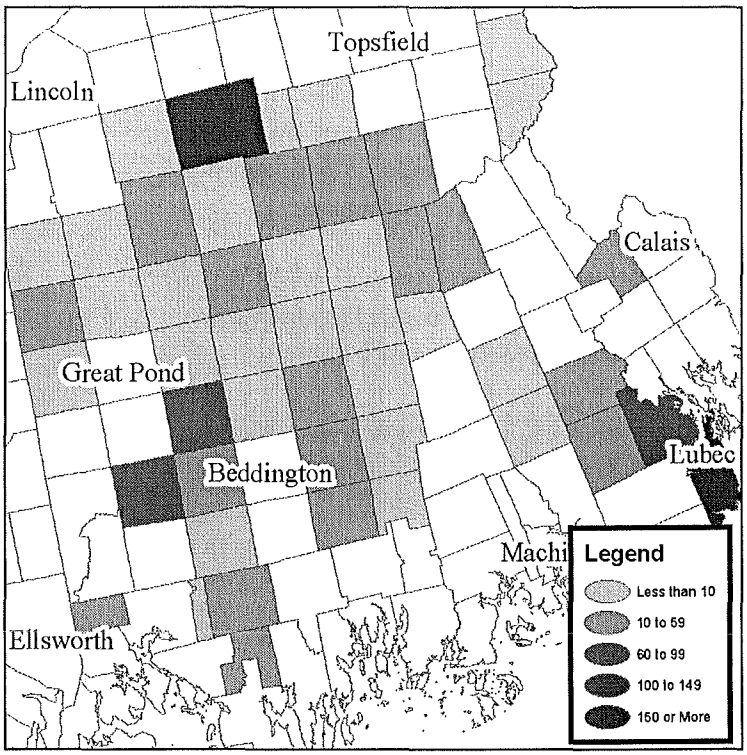
Source: Maine Revenue Services; Planning Decisions, Inc.

Ten Largest Landowners in Downeast Study Area

1985			2005	
Landowner	Acres		Landowner	Acres
Champion International	375,951		SP Forest LLC	373,396
ST Croix Pulpwood Co	162,701		Typhoon LLC	162,290
Diamond Occidental	79,108		Maine, State of	67,556
Passamaquoddy Indian Tribe	57,400		Passamaquoddy Indian Tribe	62,048
Maine, State of	44,471		Cherryfield Foods, Inc	35,093
Pejepscot Paper, Hearst Co	37,580		Lakeville Shores Inc	28,149
J Cassidy Timberlands	32,973		Eagle Cove Corp	27,609
International Paper Co	28,767		Cassidy Timberlands LLC	23,986
Arthur Elbthal	13,923		Prentiss & Carlisle Inc	13,696
JM Huber Co	9,013		Haynes Timberlands Inc	11,151

Pattern of Land Use, '72 to '05

The Downeast Region accounted for 15 % of the demand for new development in the jurisdiction. Much of the new development was concentrated in Lavkeville Plantation, which had 300 building permits. Trescott Twp had more than 150 building permits. Other permit activity tended to be located around the many lakes in this region and through the Route 9 corridor.



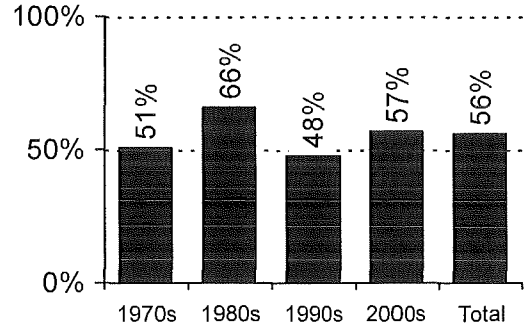
Four of every five new permits are near roads.

- 36% of the permits issued are on parcels within 1,500' of a primary or secondary road (Routes 1, 9, and 191)
- 47% are along an improved road/street or an unimproved road.
- 18% are not near a road corridor.

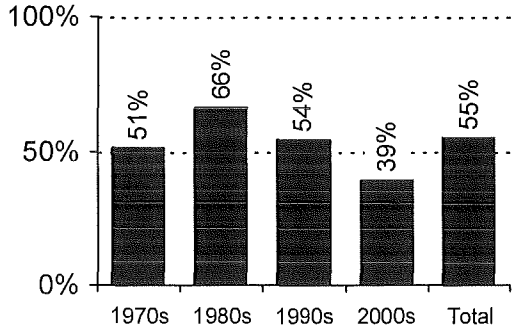
More than one-half of the building permits issued in the Downeast Region are for parcels within 500' of a water body. Many of this new development has been around Nicatous Lake, Lead Mountain Pond, Big Lake, Grand Lake, and the lakes throughout Lakeville Plantation.

In the 2000s, four in every ten permits are for dwellings with seasonal characteristics. This is a decrease since the peak in the 1980s at 66%.

Building Permits Issued for Parcels within 500' of Water Body, 1972 to 2005



Permits w/ Seasonal Characteristics, '72 to '05



Source: LURC Records, Planning Decisions, Inc.

Aroostook

Includes land in eastern Aroostook County and surrounds the population centers of Fort Kent, Presque Isle/Caribou, and Houlton. Serviced by Route 1 in the east, Route 11 in the west, and Interstate 95 in the south.

Population, 1990 to 2005:

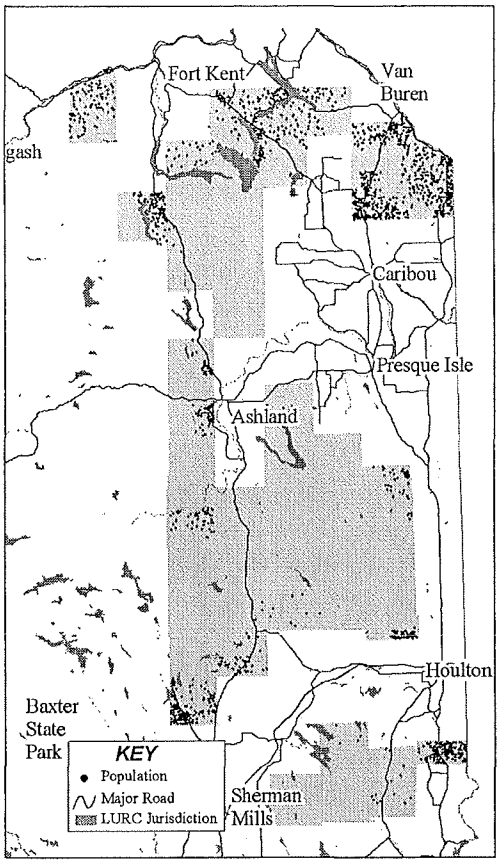
- 3,175 to 3,153 (-1% growth)
- Population is concentrated between Van Buren and Caribou; south of Houlton; and around Long, Square, Eagle, and St Froid lakes in the north.
- Stable population is projected in future

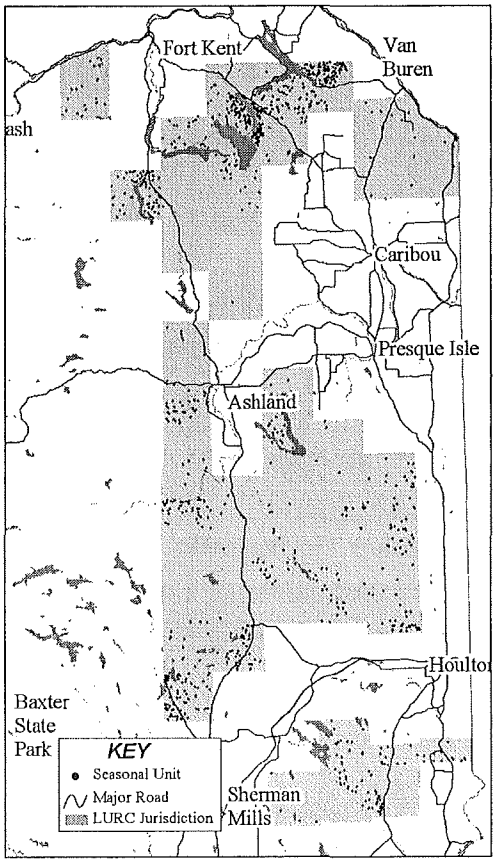
Housing Units, 1990 to 2000

- 2,582 to 2,857 (11% growth)
- 53% of housing units are seasonal units (fewest in jurisdiction)
- year round units grew faster than seasonal units (4% seasonal units growth)
- Seasonal units clustered around Eagle, Square, and Long Lakes
- Housing units tend to be older (only 24% built between 1980 and 2000)

Demographic Characteristics, 2000

- Older population (32% older than 55)
- Nearly 50% of householders are over 55 years (highest in jurisdiction)
- Population has not moved often (55% of households have not moved since 1980)
- Of those households that did move between 1995 and 2000, 70% from same county
- Low poverty rate
- Housing units tend to be in good condition (plumbing, full kitchen)
- Live close to job, not as much time spent commuting
- More likely to work in professional, educational, or retail industries



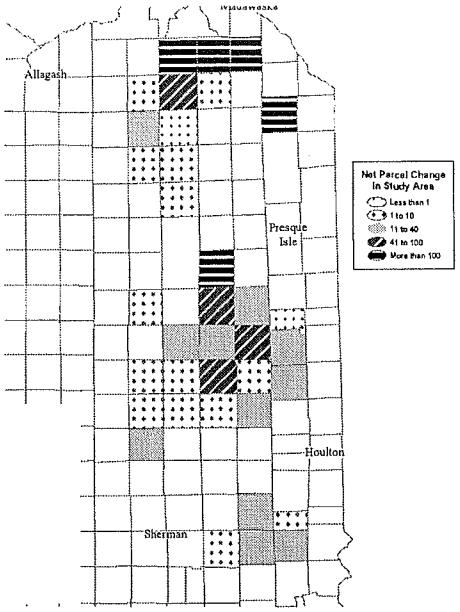


Pattern of Land Ownership, '85 to '05

Between 1985 and 2005, the Aroostook study area had a net increase of 180 land accounts. This represents 6% of the new accounts in the entire study area.

Most of the new account activity occurred in the north between Madawaska and Caribou. The remaining areas in the study area received relatively little development activity.

Allagash Timberlands and Aroostook Timberlands are subsidiaries of Irving Pulp and Paper. These two companies combined own more than 300,000 acres in the Aroostook study area.



Ownership Change in Aroostook Study Area, 1985 to 2005				
	1985	2005	Change	% Change
Total Land Account	1,429	1,784	355	25%
Total Leaseholds	879	694	-185	-21%
Large Land Account (>200 acres)	148	128	-20	-14%
Total Parcels	1,809	2,377	568	31%

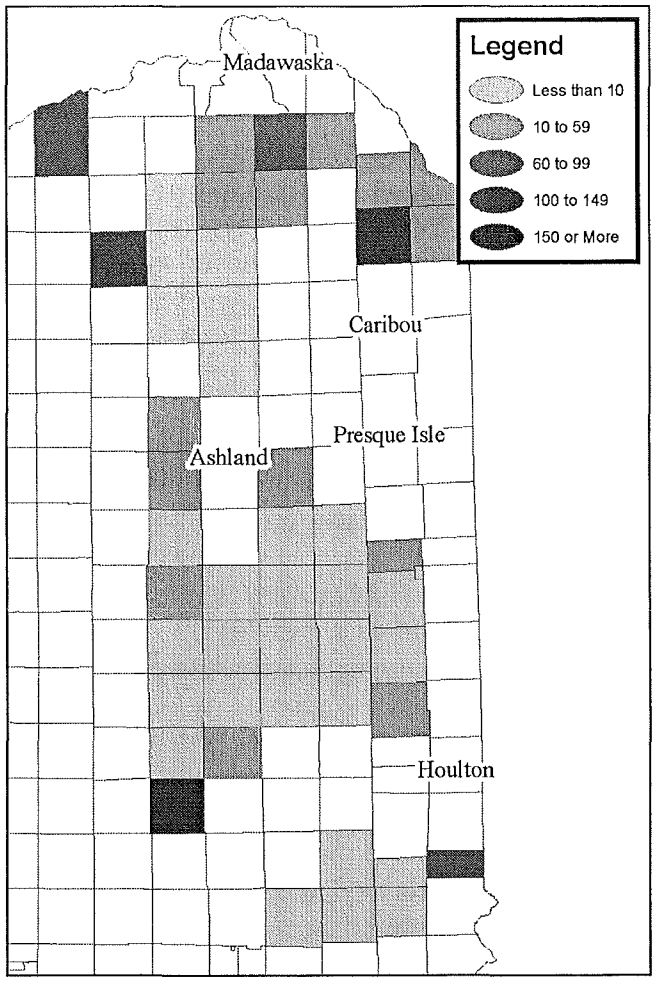
Source: Maine Revenue Services; Planning Decisions, Inc.

Ten Largest Landowners in Aroostook Study Area

1985			2005	
Landowner	Acres		Landowner	Acres
Great Northern	243,322		Aroostook Timberlands	183,213
Pingree Associates	99,395		Allagash Timberlands	160,267
Consolidated Rambler Mines	80,645		Levesque & Sons Inc	101,239
Dunn Hiers	78,699		Pingree Associates	86,723
Diamond Occidental	78,245		JM Huber Corp	51,520
JM Huber CO	57,531		Moulton Timberlands	39,893
Maine, State of	44,188		McCrillis Timberlands Inc	35,248
Webber Timberlands	28,103		Maine, State of	35,055
International Paper Co	24,776		C Tyler Trust	31,684
Diamond International	24,470		Hinch & Ahern	13,972

Pattern of Land Use, '72 to '05

The Aroostook Region accounted for 12% of the building permits in the jurisdiction. Development pressure was concentrated in Mount Chase, which had more than 150 permits and in Connor Twp and Winterville Plt, which each had between 100 and 150 permits. Development tended to be between Caribou and Madawaska and around Ashland.



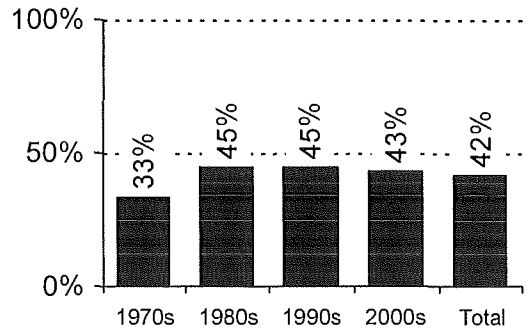
Nine of ten new permits are near roads.

- 46% of the permits issued are on parcels within 1,500' of a primary or secondary road (Routes 1, 11, and 161).
- 41% are along local and unimproved roads.
- 13% are not near a road corridor.

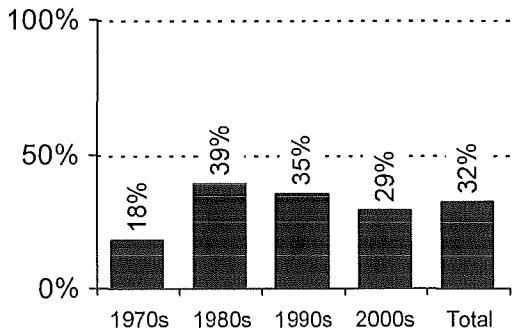
Approximately four in every ten permits is for parcels of land within 500' of a water body. This development tends to be spread throughout the region and has been relatively constant since the 1980s.

One-third of the new building permits are issued for dwellings with seasonal building characteristics. This peaked in the 1980s at nearly 40% and has been slowly decreasing since then.

Building Permits Issued for Parcels within 500' of Water Body, 1972 to 2005



Permits w/ Seasonal Characteristics, '72 to '05



Source: LURC Records, Planning Decisions, Inc.

Interior

Includes interior portions of Aroostook, Somerset, Piscataquis, and Penobscot counties. Largely uninterrupted forests from Baxter State Park in the south to Allagash in the north to the Canadian border in the west. Very limited access by public roads. This is the largest region, covering approximately 40% of LURC's jurisdiction.

Population, 1990 to 2005:

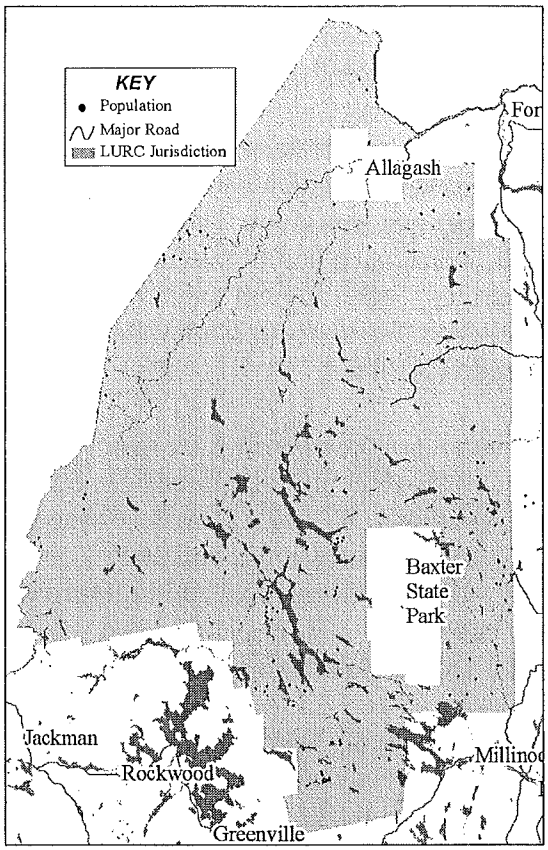
- 203 to 123 (-39% growth)
- Settlement pattern has no pattern
- Population is projected to continue declining at a moderate rate in near future

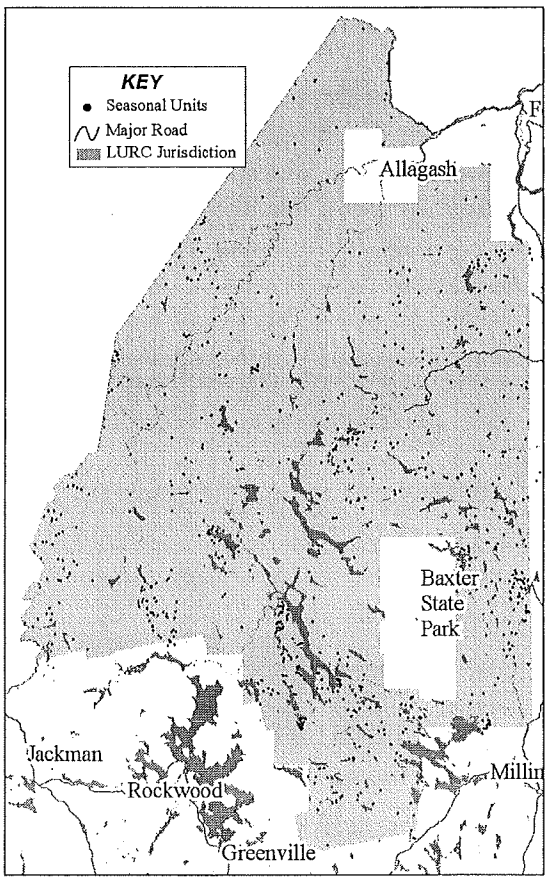
Housing Units, 1990 to 2000

- 1,309 to 1,411 (8% growth)
- 90% of housing units are seasonal units (largest in jurisdiction)
- Year-round units grew faster than seasonal units (decrease of 23% in seasonal units)
- Seasonal units account for 9% of the total seasonal units in jurisdiction
- Housing units tend to be older, and few have full kitchens or plumbing facilities
- Units are very small, average only 3.2 rooms per unit (versus 4.3 for jurisdiction)

Demographic Characteristics, 2000

- Tends to be middle age and senior populations, few younger children
- Rely more on retirement income than any other region
- Lower poverty rate than state as a whole
- Very small average household size (2.09 persons/household)
- 1/3 of units are 1-person, and nearly 50% are 2-person households
- More likely to be in manufacturing industry

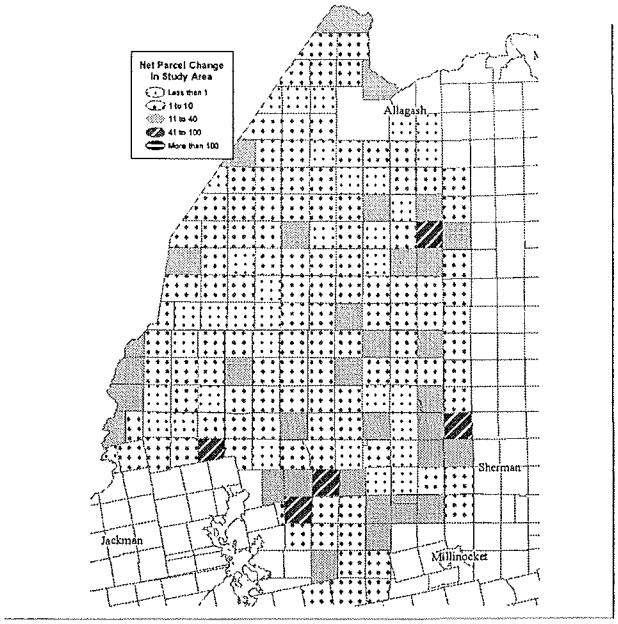




Pattern of Ownership, '85 to '05

Between 1985 and 2005, the Interior study area had a net increase of 311 land accounts. This represents 10% of the new accounts in the entire study area.

This new account activity was spread widely over the Interior Region. Limited access to this region from major transportation corridors has made rapid changes in ownership and new land account activity more difficult than in the other regions. In addition, significant conservation efforts (both fee ownership and conservation easements) and regulation has made the fragmentation of land ownerships more difficult in the interior region.



Ownership Change in Interior Study Area, 1985 to 2005				
	1985	2005	Change	% Change
Total Land Account	647	911	264	41%
Total Leaseholds	708	755	47	7%
Large Land Account (>200 acres)	446	440	-6	-1%
Total Parcels	781	1,158	377	48%

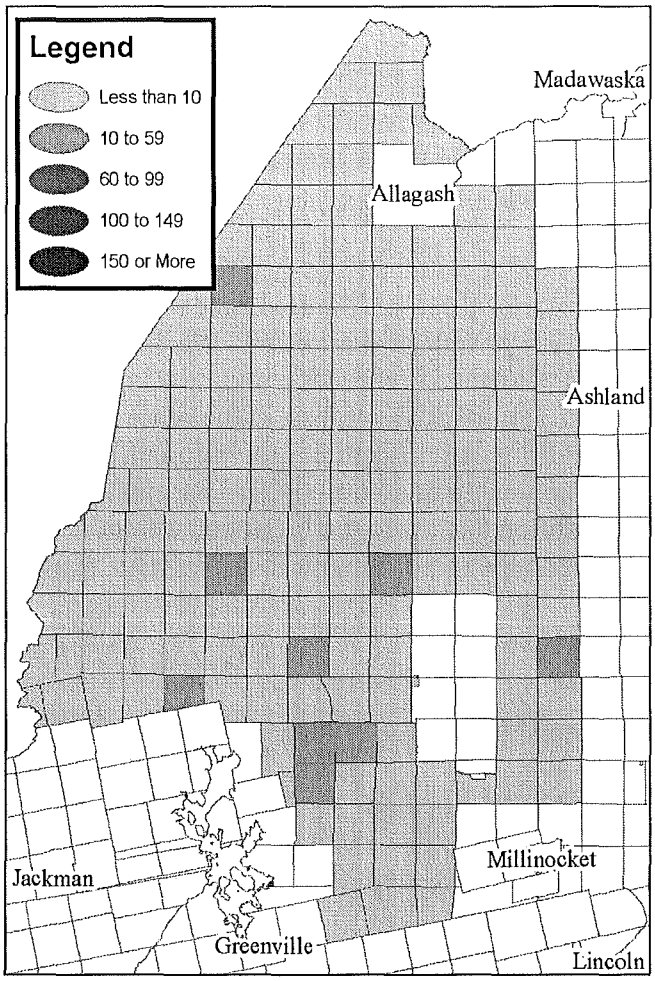
Source: Maine Revenue Services; Planning Decisions, Inc.

Ten Largest Landowners in Interior Study Area

1985		2005	
Landowner	Acres	Landowner	Acres
Great Northern	1,412,742	Pingree Associates	656,891
Pingree Associates	745,930	Aroostook Timberlands	435,114
International Paper	498,515	Maine, State of	285,054
Maine, State of	355,876	Allagash Timberlands LP	267,607
Irving Pulp and Paper	196,403	Great Northwoods LLC	263,037
JM Huber Co	163,675	Nature Conservancy	245,252
J Cassidy Timberlands	153,469	Merriweather LLC	222,386
Oxford Paper Co	108,078	Clayton Lake Woodlands	216,961
Diamond Occidental	96,267	JM Huber Co	196,545
Consolidated Rambler Mines	45,129	Katahdin Forest Manage. LLC	163,899

Pattern of Land Use, '72 to '05

The interior accounted for only 6% of the new building permits. Elm Stream Twp had the most permits in the region (40 permits) and Chesnucook Twp had more than 20 permits. Development elsewhere was sparse.



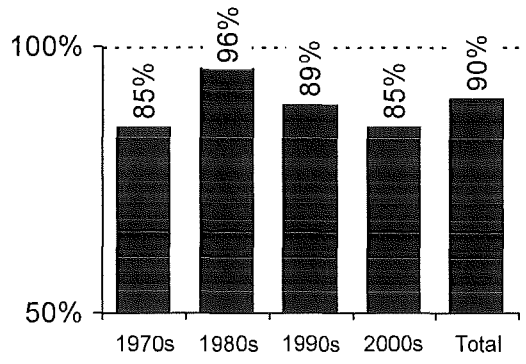
Three of every four new permits are near roads.

- 8% of the permits issued are on parcels within 1,500' of a primary or secondary road. This is the lowest in the study area and is indicative of the Interior Region's remoteness.
- 70% are on local roads and unimproved roads. These are largely located along the many logging roads that are spread throughout the interior.
- 23% are not near a road corridor.

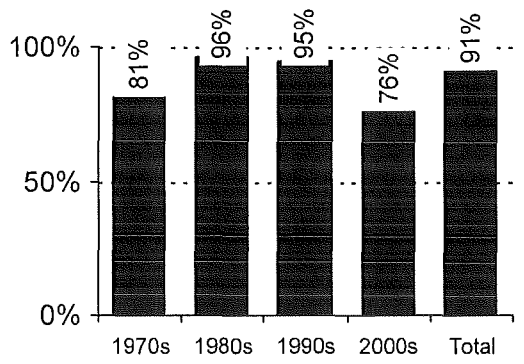
Nine in every ten building permits issued are on parcels within 500' of a water body. These tend to be clustered around Chesuncook Twp and Millinocket, but there are others spread across the region.

In addition, nine in every ten building permits issued are for dwellings with seasonal characteristics. This has decreased in the 2000s.

Building Permits Issued for Parcels within 500' of Water Body, 1972 to 2005



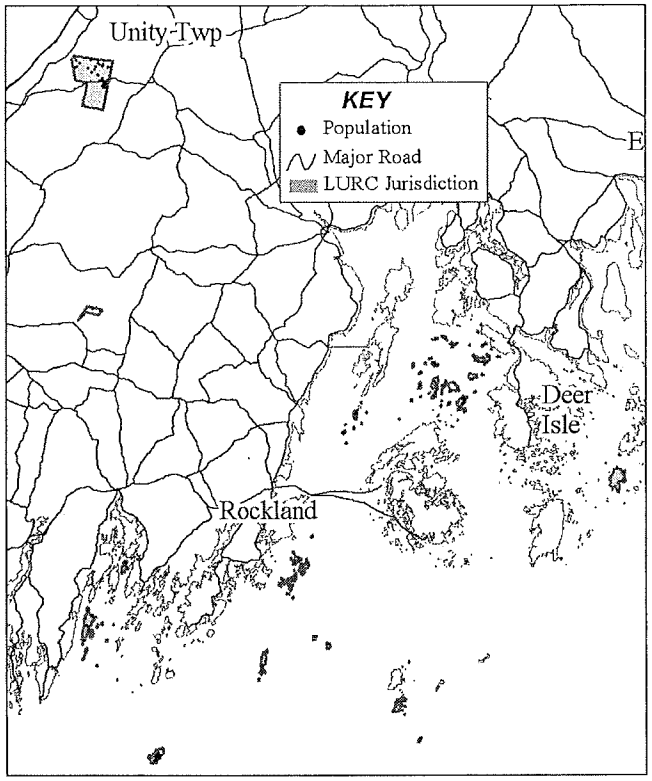
Permits w/ Seasonal Characteristics, '72 to '05



Source: LURC Records, Planning Decisions, Inc.

South/Islands

An assortment of offshore islands and interior lands in Kennebec, Sagadahoc, Lincoln, Knox, and Hancock counties. In all, this are accounts for less than 1% of the entire jurisdiction. None of the geographies within this region are adjacent to each other – they are either surrounded by communities outside of the jurisdiction or water.

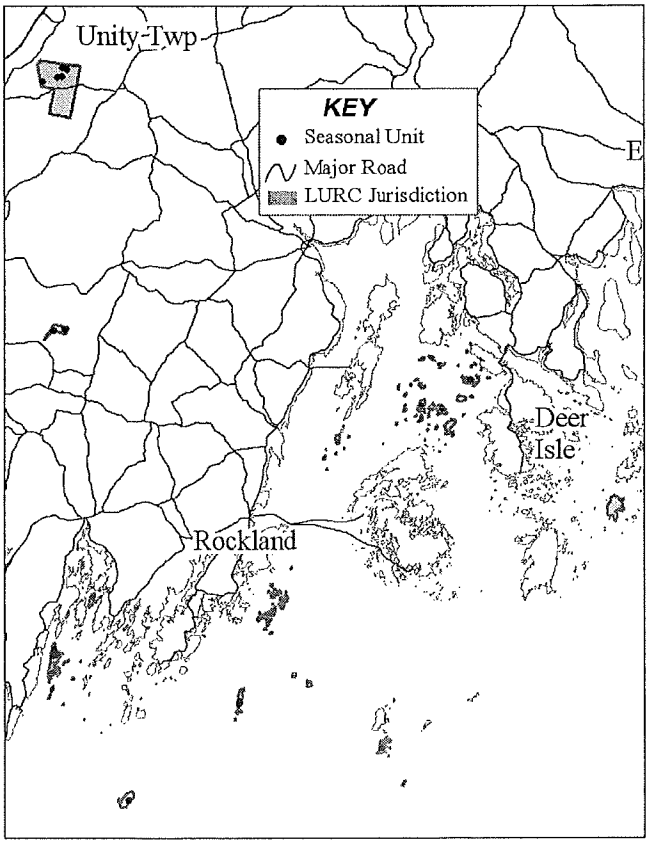


Population, 1990 to 2005:

- 147 to 111 (-25% growth)
- Most of the year-round residents live on Monhegan and Criehaven islands
- Population is projected to continue declining modestly

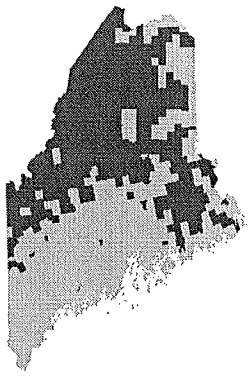
Housing Units, 1990 to 2000

- 244 to 290 (19% growth)
- 64% of housing units are seasonal units
- Seasonal units grew faster than year round units (25% increase in seasonal units)
- Housing units are larger than other regions
- Housing units are old (nearly 70% were built before 1940)



Demographic Characteristics, 2000

- Owner-occupied housing units are valuable (nearly 75% are worth more than $100,000)
- Large population between 18 and 44 (46% of residents) and few children
- Households more likely to move in from out of state (40% of households that moved between 1995 and 2000)
- Households less likely to own their own home (66%)
- Nearly one-half of income is from self-employment
- Average household size is very low (1.88 persons per household)
- Residents are well educated
- More likely to be in natural resource, construction, and art/entertainment industries



Appendix A: Sources of Data

The data in this report comes from a variety of sources. The research team encountered difficulties with some of the data sources. This is a common challenge for data that spans long periods of time, is spread over very large areas, and has characteristics endemic to LURC's jurisdiction. These difficulties have been identified wherever the research team encountered challenges. However, the large sample size of the population and the level at which the data was analyzed (region-by-region) greatly increases our confidence in the underlying trends that the data highlights.

Population and demographic figures in this report are based on data 2000 US Census. The US Census collects and reports data from two different surveys.

- Summary File 1 (SF1) contains population, household, and housing unit counts for all people and housing units. This data is collected from the decennial "short form." These counts are available down to the Block level – the smallest geographic area in which Census data can be calculated.

- Summary File 3 (SF3) contains in-depth population and housing data from a sample of the total population and housing units. Most of this information is collected from the decennial "long form." Because these counts are based on statistical sampling, these counts are only available to the County Subdivision and Block Group levels.

For analytical purposes, this report divides LURC's jurisdiction into six regions. This report uses SF1 at the Block level to get the most accurate depiction of each region (the total population, total household, and total housing unit data). This report uses the SF3 data to provide more detailed assessments on the rest of the data points (e.g. age of housing units, education attainment, job by occupation, and commuting distance to work).

Pattern of development figures in this report come from several sources. LURC's building permit database is the most prominent source of data and served as the foundation for two types of analysis:

- Total development by MCD and classification of seasonal and year-round units are based on a 100% count of all the building permits recorded in LURC's building permit database between 1972 and July of 2005.

- Proximity calculations for roads and water bodies were made using a GIS analysis of LURC's building permit database. The building permits were linked to LURC's GIS parcel map for spatial analysis. Approximately 80% of the building permits were able to be analyzed. The remaining 20% were excluded for a variety of reasons, including data input errors, an annual parcel map update schedule, data recording errors, and data outside the bounds of the study area (the South and Islands Region were not included in this analysis because their development issues are intrinsically different from the rest of LURC's jurisdiction).

Inaccuracies in the database are likely due to recording errors, 'ghost permits' that are never built, and illegal construction and conversion. However, these are the most reliable data available for this spatial analysis of the changing pattern of land use and the size of the database makes errors less likely to affect the significance of the findings.

Land ownership change figures in this report come from an analysis of the property tax commitment books in 1985 and 2005. The 1985 records are available only in hardcopy format at Maine Revenue Services. The 2005 property tax commitment book is available in the PTM Database maintained by Maine Revenue Services.

Summary of Population, Households, Housing Units, 2000

	Population	Households	Housing Units	
			Total	Seasonal
West. Mountains	2,471	1,041	3,973	2,784
Moosehead	1,120	530	3,629	2,946
Central	3,030	1,245	3,766	2,367
Downeast	2,083	882	3,009	2,200
Aroostook	3,147	1,300	2,857	1,708
Interior	152	71	1,412	1,027
South/Islands	117	67	290	272
Total	12,120	5,136	18,936	13,304

Source: US Census Summary File 1, 100% Count by Census Block

Appendix B: Housing Unit Analysis

B-1. Summary Housing Unit Statistics, 2000

Universe: All Housing Units

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
% of Year-Round Units Occupied	88.2%	89.8%	66.1%	88.6%	75.9%	87.5%	77.9%	86.4%	94.5%
% of All Units that are Seasonal	53.2%	65.5%	89.7%	67.7%	81.6%	66.5%	63.7%	69.2%	15.9%
Average Number of Rooms/Unit	4.7	4.2	3.2	4.9	4.1	4.0	5.0	4.3	5.5

Source: US Census Summary File 3; Planning Decisions, Inc.

B-2. Year Housing Unit Was Built, 2000

Universe: All Housing Units

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
1990s	12.8%	14.5%	19.0%	23.3%	22.7%	20.2%	4.2%	18.7%	14.6%
1980s	10.6%	13.4%	13.8%	16.0%	14.7%	15.7%	4.6%	14.0%	16.0%
1970s	18.9%	17.6%	13.7%	19.1%	13.1%	14.1%	8.4%	16.2%	15.9%
1960s	16.2%	16.4%	14.7%	9.6%	11.1%	14.2%	9.3%	13.4%	9.2%
1950s	11.2%	12.0%	17.5%	9.1%	10.9%	12.1%	0.0%	11.4%	8.6%
1940s	9.7%	7.8%	6.1%	3.1%	5.7%	7.3%	5.1%	6.5%	6.6%
< 1940	20.6%	18.3%	15.2%	19.7%	21.7%	16.5%	68.4%	19.7%	29.1%
Total	100%	100%	100%	100.0%	100.0%	100%	100%	100%	100%

Source: US Census Summary File 3; Planning Decisions, Inc.

B-3. Housing Units by Type, 2000

Universe: All Housing Units

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
1, detached	91.0%	89.8%	95.0%	88.5%	89.8%	89.3%	87.3%	90.0%	67.4%
1, attached	0.5%	0.5%	0.4%	1.5%	1.2%	0.5%	0.8%	0.9%	2.2%
2	0.6%	0.1%	0.1%	1.1%	0.6%	0.2%	0.8%	0.5%	5.6%
3 or 4	0.2%	0.0%	0.0%	0.6%	0.6%	0.0%	1.7%	0.3%	5.8%
5 to 9	0.0%	0.0%	0.0%	0.1%	0.6%	0.1%	4.6%	0.2%	4.3%
10 to 19	0.5%	0.0%	0.0%	0.0%	1.5%	0.0%	0.0%	0.4%	1.7%
20 to 49	0.1%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.2%	1.6%
50 or more	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%
Mobile home	6.8%	9.0%	2.5%	7.6%	3.9%	8.5%	4.6%	6.7%	9.8%
Other	0.4%	0.6%	1.9%	0.6%	0.9%	1.4%	0.0%	0.8%	0.3%
Total	100%	100%	100%	100.0%	100.0%	100%	100%	100%	100%

Source: US Census Summary File 3; Planning Decisions, Inc.

B-4. Room Size, All Housing Units, 2000

Universe: All Housing Units

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
1 room	6.3%	7.0%	19.8%	2.5%	8.3%	11.3%	3.8%	7.9%	1.5%
2 rooms	7.6%	13.7%	25.8%	7.6%	18.3%	13.7%	13.1%	13.4%	3.7%
3 rooms	12.1%	17.2%	19.2%	12.9%	12.3%	17.4%	11.4%	14.7%	9.1%
4 rooms	19.0%	20.3%	13.2%	20.6%	23.5%	18.6%	11.8%	19.9%	18.7%
5 rooms	21.1%	20.3%	10.9%	22.3%	15.3%	19.7%	19.0%	19.0%	22.0%
6 rooms	16.5%	9.1%	5.3%	16.2%	9.4%	9.7%	21.5%	11.6%	17.9%
7 rooms	10.2%	6.2%	2.0%	7.9%	7.4%	6.0%	6.3%	7.0%	12.0%
8 rooms	4.8%	3.6%	2.5%	5.1%	2.4%	2.3%	5.1%	3.6%	7.7%
9 or more rooms	2.4%	2.7%	1.3%	4.9%	3.1%	1.3%	8.0%	2.9%	7.4%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: US Census Summary File 3; Planning Decisions, Inc.

B-5. Room Size, Occupied Housing Units, 2000

Universe: Occupied Housing Units

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
1 room	0.6%	0.7%	3.7%	0.3%	1.6%	1.0%	0.0%	0.8%	0.8%
2 rooms	2.1%	2.3%	7.4%	2.8%	5.6%	2.2%	13.4%	3.0%	2.7%
3 rooms	6.8%	5.6%	5.8%	8.9%	8.6%	7.1%	11.9%	7.2%	8.1%
4 rooms	16.3%	21.4%	21.7%	17.8%	23.2%	18.4%	11.9%	19.0%	17.8%
5 rooms	28.8%	29.2%	18.0%	24.8%	24.6%	32.6%	22.4%	28.0%	22.6%
6 rooms	19.6%	16.4%	24.8%	20.7%	16.6%	16.4%	17.9%	18.2%	18.8%
7 rooms	13.7%	12.1%	10.6%	11.1%	9.7%	13.3%	3.0%	12.1%	13.0%
8 rooms	6.7%	7.5%	8.0%	7.7%	6.9%	5.3%	6.0%	6.9%	8.4%
9 or more rooms	5.3%	4.7%	0.0%	5.9%	3.2%	3.7%	13.4%	4.8%	7.9%
total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: US Census Summary File 3; Planning Decisions, Inc.

B-6. Room Size, Vacant Housing Units, 2000

Universe: Vacant Housing Units

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
1 room	10.3%	9.8%	21.0%	3.3%	9.4%	15.6%	5.3%	10.4%	4.4%
2 rooms	11.5%	18.8%	27.1%	9.5%	20.4%	18.5%	12.9%	17.2%	7.7%
3 rooms	15.9%	22.3%	20.2%	14.5%	12.9%	21.6%	11.2%	17.4%	13.0%
4 rooms	21.0%	19.9%	12.6%	21.8%	23.5%	18.7%	11.8%	20.2%	22.2%
5 rooms	15.7%	16.3%	10.4%	21.3%	13.8%	14.4%	17.6%	15.8%	19.7%
6 rooms	14.2%	5.8%	3.9%	14.4%	8.2%	7.0%	22.9%	9.3%	14.2%
7 rooms	7.6%	3.5%	1.3%	6.6%	7.0%	2.9%	7.6%	5.2%	8.2%
8 rooms	3.5%	1.8%	2.1%	4.0%	1.6%	1.0%	4.7%	2.3%	5.1%
9 or more rooms	0.4%	1.8%	1.4%	4.5%	3.1%	0.3%	5.9%	2.2%	5.5%
total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: US Census Summary File 3; Planning Decisions, Inc.

B-7. Housing Units by Age, 2000

Universe: All Housing Units

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
1990s	12.8%	14.5%	19.0%	23.3%	22.7%	20.2%	4.2%	18.7%	14.6%
1980s	10.6%	13.4%	13.8%	16.0%	14.7%	15.7%	4.6%	14.0%	16.0%
1970s	18.9%	17.6%	13.7%	19.1%	13.1%	14.1%	8.4%	16.2%	15.9%
1960s	16.2%	16.4%	14.7%	9.6%	11.1%	14.2%	9.3%	13.4%	9.2%
1950s	11.2%	12.0%	17.5%	9.1%	10.9%	12.1%	0.0%	11.4%	8.6%
1940s	9.7%	7.8%	6.1%	3.1%	5.7%	7.3%	5.1%	6.5%	6.6%
pre-1940	20.6%	18.3%	15.2%	19.7%	21.7%	16.5%	68.4%	19.7%	29.1%
Total	100%	100%	100%	100.0%	100.0%	100%	100%	100%	100%

Source: US Census Summary File 3; Planning Decisions, Inc.

B-8. Housing Units by Condition, 2000

Universe: Housing Units

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
Lacks Complete Plumbing Facilities	22.1%	49.4%	69.8%	26.1%	51.7%	49.8%	23.6%	42.4%	4.4%
Lacks Complete Kitchen Facilities	19.3%	40.6%	61.4%	23.2%	40.4%	44.5%	19.8%	35.9%	3.7%

Source: US Census Summary File 3; Planning Decisions, Inc.

B-9. Housing Units by Value, 2000

Universe: Owner-Occupied Housing Units

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
less than $50,000	37.6%	43.8%	33.6%	18.9%	21.1%	35.5%	17.8%	33.0%	15.4%
$50,000 to $99,999	45.8%	42.2%	39.0%	40.6%	44.8%	45.6%	8.9%	43.2%	39.6%
$100,000 to $149,999	11.9%	8.5%	12.2%	20.9%	20.9%	10.4%	17.8%	13.6%	24.3%
$150,000 to $199,999	2.8%	3.1%	6.1%	7.0%	4.7%	3.0%	33.3%	4.3%	10.2%
$200,000 to $299,999	1.2%	1.6%	5.4%	8.1%	4.3%	3.3%	8.9%	3.6%	6.5%
$300,000 to $499,999	0.7%	0.7%	3.6%	2.4%	3.1%	1.3%	13.3%	1.6%	2.7%
more than $499,999	0.0%	0.2%	0.0%	2.0%	1.2%	0.9%	0.0%	0.7%	1.2%
Total	100%	100%	100%	100.0%	100.0%	100%	100%	100%	100%

Source: US Census Summary File 3; Planning Decisions, Inc.

Appendix C: Population and Demographic Analysis

C-1. Population by Age, 2000

Universe: Population

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
<5	5.0%	3.7%	2.7%	3.7%	3.0%	6.1%	0.8%	4.5%	6.1%
5 to 14	12.8%	13.3%	8.9%	12.4%	10.1%	13.6%	10.7%	12.7%	13.7%
14 to 25	9.4%	11.9%	8.9%	10.4%	9.0%	11.4%	16.4%	10.6%	12.4%
25 to 34	8.1%	10.1%	5.8%	9.6%	7.5%	11.2%	12.3%	9.4%	12.2%
35 to 44	15.6%	18.1%	20.2%	16.8%	15.8%	16.9%	24.6%	16.9%	16.7%
45 to 54	17.3%	17.9%	20.9%	17.4%	19.0%	18.0%	14.8%	17.8%	15.0%
55 to 64	15.0%	11.0%	20.8%	14.7%	18.1%	9.7%	11.5%	13.3%	9.6%
65 to 74	11.1%	9.1%	7.4%	10.9%	10.4%	8.5%	5.7%	9.9%	7.6%
> 74	5.8%	4.8%	4.3%	4.2%	7.1%	4.7%	3.3%	5.1%	6.8%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: US Census Summary File 3; Planning Decisions, Inc.

C-2. Households by Age of Householder, 2000

Universe: Households

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
< 35	9.7%	12.4%	8.0%	14.1%	11.9%	16.0%	32.3%	12.9%	19.2%
35 to 44	17.9%	23.3%	18.1%	21.5%	16.5%	21.4%	26.2%	20.5%	22.5%
45 to 54	23.7%	24.5%	28.2%	23.2%	23.1%	26.1%	18.5%	24.2%	21.5%
55 to 64	20.5%	16.5%	28.5%	18.6%	22.7%	14.7%	15.4%	18.4%	14.0%
65 to 74	17.6%	14.1%	9.5%	15.8%	15.4%	13.4%	1.5%	15.0%	11.9%
> 74	10.6%	9.1%	7.6%	6.9%	10.4%	8.4%	6.2%	8.9%	11.0%
Total	100%	100%	100%	100.0%	100.0%	100%	100%	100%	100%

Source: US Census Summary File 3; Planning Decisions, Inc.

C-3. Year Moved Into Unit, 2000

Universe: Households

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
Moved in 1995 to 2000	27.3%	29.3%	33.2%	32.9%	42.9%	35.2%	38.8%	31.7%	42.9%
Moved in 1990 to 1994	17.4%	15.9%	18.6%	22.5%	15.4%	17.2%	11.9%	18.2%	15.4%
Moved in 1980 to 1989	20.0%	23.4%	21.8%	24.4%	19.2%	21.5%	26.9%	22.6%	19.2%
Moved in 1970 to 1979	18.6%	18.4%	12.2%	11.2%	11.3%	12.7%	10.4%	14.7%	11.3%
Moved in 1969 or earlier	16.7%	13.0%	14.2%	9.0%	11.2%	13.3%	11.9%	12.8%	11.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: US Census Summary File 3; Planning Decisions, Inc.

C-4. Lived in 1995...

Universe: Households

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
Same House	72.6%	72.6%	75.2%	68.2%	65.8%	71.5%	59.5%	70.8%	59.6%
Same County, different house	19.2%	15.0%	10.8%	17.5%	13.3%	17.1%	21.5%	16.7%	22.9%
Elsewhere in Maine	1.3%	7.7%	5.0%	6.3%	10.1%	5.3%	2.5%	5.5%	7.7%
Elsewhere in Northeast	3.0%	3.1%	4.2%	5.0%	6.5%	3.7%	14.0%	4.0%	4.8%
Elsewhere in U.S.A.	2.8%	1.4%	3.9%	2.6%	4.3%	1.5%	1.7%	2.3%	4.2%
Other	1.0%	0.2%	1.0%	0.5%	0.0%	0.9%	0.8%	0.6%	0.9%
Total	100%	100%	100%	100.0%	100.0%	100%	100%	100%	100%

Source: US Census Summary File 3; Planning Decisions, Inc.

C-5. Tenure, 2000

Universe: Households

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
Owner Occupied	88.5%	92.2%	86.8%	86.9%	79.2%	86.7%	67.2%	87.4%	71.6%
Renter Occupied	11.5%	7.8%	13.2%	13.1%	20.8%	13.3%	32.8%	12.6%	28.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: US Census Summary File 3; Planning Decisions, Inc.

C-6. Household Income, 1999*

Universe: Households

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
< $15,000	27.4%	24.9%	16.6%	18.3%	30.1%	26.6%	18.5%	24.7%	17.8%
$15,000 to $24,999	18.3%	18.0%	24.6%	17.9%	18.7%	17.0%	36.9%	18.3%	14.8%
$25,000 to $34,999	15.5%	17.8%	15.6%	19.3%	14.2%	16.0%	9.2%	16.7%	14.2%
$35,000 to $49,999	18.4%	16.2%	20.6%	19.7%	14.2%	16.9%	13.8%	17.4%	18.3%
$50,000 to $74,999	12.5%	15.0%	17.1%	16.3%	10.9%	15.9%	18.5%	14.5%	19.4%
$75,000 to $99,999	5.0%	5.3%	4.0%	5.6%	7.1%	4.8%	0.0%	5.3%	8.4%
> $100,000	3.0%	2.9%	1.5%	2.9%	4.9%	2.8%	3.1%	3.1%	7.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: US Census Summary File 3; Planning Decisions, Inc.

* Last full year in which the US Census reports income in Census 2000

C-7. Household Income by Type, 1999

Universe: Households

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
Wage or Salary, avg	65.1%	69.8%	62.4%	66.1%	56.6%	67.3%	36.9%	65.6%	70.3%
Self-Employment, avg	10.5%	9.3%	8.1%	9.8%	14.0%	12.2%	45.5%	11.1%	7.6%
Interest, Dividends, Rental avg	3.0%	2.5%	3.7%	4.6%	6.0%	4.8%	7.2%	3.9%	7.1%
Social Security, avg	10.1%	9.1%	6.7%	7.8%	9.1%	7.4%	4.8%	8.7%	6.4%
Supplemental Security, avg	0.9%	1.1%	0.9%	0.8%	0.8%	0.5%	0.2%	0.8%	0.6%
Public Assistance, avg	0.3%	0.3%	0.1%	0.4%	0.1%	0.3%	0.1%	0.3%	0.2%
Retirement, avg	6.8%	5.5%	16.9%	7.5%	8.4%	5.4%	5.0%	6.8%	5.6%
Other, avg	3.3%	2.2%	1.3%	3.0%	5.1%	2.1%	0.2%	2.9%	2.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: US Census Summary File 3; Planning Decisions, Inc.

C-8. Poverty Status, 2000

Universe: Households

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
Percent of population in poverty	13.8%	16.4%	9.6%	13.1%	17.1%	19.2%	14.8%	15.5%	10.6%

Source: US Census Summary File 3; Planning Decisions, Inc.

C-9. Poverty Status by Age, 2000

Universe: Households Below Poverty Level

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
Under 18 years	21.5%	22.9%	22.5%	33.6%	15.9%	24.0%	27.8%	24.0%	29.6%
18 to 64 years	56.8%	61.2%	69.9%	56.3%	66.0%	62.1%	72.2%	60.3%	57.2%
> 64 years	21.7%	15.9%	7.5%	10.1%	18.1%	13.9%	0.0%	15.7%	13.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: US Census Summary File 3; Planning Decisions, Inc.

C-10. Household by Size, 2000

Universe: Occupied Housing Units

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
1-person household	22.5%	20.3%	33.2%	23.1%	33.5%	22.8%	40.3%	23.8%	27.0%
2-person household	42.5%	42.7%	46.1%	46.6%	41.8%	39.3%	40.3%	42.8%	36.8%
3-person household	15.2%	14.7%	8.4%	12.7%	13.6%	16.1%	6.0%	14.3%	15.9%
4-person household	13.7%	13.9%	6.4%	11.5%	8.4%	15.4%	9.0%	12.8%	13.4%
5-person household	4.1%	5.5%	2.7%	5.1%	1.7%	3.7%	4.5%	4.3%	5.1%
6-person household	1.4%	2.3%	3.2%	0.9%	0.0%	1.5%	0.0%	1.4%	1.3%
7-or-more-person household	0.8%	0.7%	0.0%	0.1%	1.0%	1.2%	0.0%	0.7%	0.5%
Total	100.0%	100.0%	100.0%	100.0%	100%	100.0%	100.0%	100.0%	100.0%
Average Persons Per Household	2.42	2.48	2.09	2.33	2.08	2.49	1.88	2.38	2.39

Source: US Census Summary File 3; Planning Decisions, Inc.

C-11. Commuting Distance to Work, 2000

Universe: Workers 16 years and over

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
less than 15	29.5%	18.8%	27.0%	33.4%	50.9%	27.9%	69.6%	30.1%	35.7%
15 to 29	39.1%	29.1%	28.2%	26.3%	17.4%	26.0%	8.9%	28.8%	33.1%
30 to 59	22.6%	31.6%	24.5%	27.4%	17.8%	32.4%	5.1%	26.9%	21.0%
1 hour or more	5.3%	16.4%	12.0%	9.2%	6.6%	8.8%	0.0%	9.6%	5.9%
worked at home	3.5%	4.1%	8.3%	3.7%	7.3%	5.0%	16.5%	4.6%	4.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: US Census Summary File 3; Planning Decisions, Inc.

C-12. Education Attainment, 2000

Universe: Population 25 years and over

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
No HS diploma	26.9%	24.4%	10.9%	16.7%	18.8%	21.6%	11.4%	22.0%	14.6%
HS diploma	42.2%	50.2%	50.2%	40.8%	39.7%	43.2%	37.5%	43.9%	36.2%
some college	16.5%	12.9%	18.4%	17.6%	18.1%	14.8%	19.3%	15.8%	19.0%
college degree	11.3%	10.5%	18.1%	19.9%	18.0%	16.9%	23.9%	14.8%	22.3%
graduate degree	3.1%	2.0%	2.4%	5.0%	5.3%	3.6%	8.0%	3.6%	7.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: US Census Summary File 3; Planning Decisions, Inc.

C-13. Job by Industry, 2000

Universe: Employed Civilian Population 16 years and over

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
Agriculture, forestry, fishing and hunting, and mining:	8.9%	13.8%	3.5%	6.2%	5.8%	8.4%	29.1%	9.2%	2.6%
Construction	6.4%	6.5%	9.0%	12.1%	10.9%	12.4%	16.5%	9.5%	6.9%
Manufacturing	11.5%	21.4%	29.9%	14.0%	11.0%	15.5%	2.5%	15.2%	14.2%
Wholesale trade	1.9%	1.9%	0.0%	1.9%	1.7%	2.6%	0.0%	2.0%	3.4%
Retail trade	13.3%	8.9%	15.1%	11.7%	9.4%	9.7%	11.4%	10.9%	13.5%
Transportation and warehousing, and utilities:	6.2%	8.8%	5.1%	3.3%	6.9%	6.5%	5.1%	6.2%	4.3%
Information	0.5%	0.7%	0.0%	0.3%	1.6%	0.5%	3.8%	0.6%	2.5%
Finance, insurance, real estate and rental and leasing:	2.4%	2.5%	0.0%	4.4%	3.8%	2.8%	2.5%	3.0%	6.2%
Professional, scientific, management, administrative, and waste management services:	6.4%	2.3%	1.5%	4.6%	3.4%	3.5%	2.5%	4.1%	6.9%
Educational, health and social services:	27.4%	21.8%	14.2%	17.1%	16.4%	24.4%	7.6%	21.7%	23.2%
Arts, entertainment, recreation, accommodation and food services:	3.6%	4.2%	8.6%	17.1%	17.2%	4.2%	16.5%	8.4%	7.1%
Other services (except public administration)	5.2%	3.7%	1.0%	2.9%	4.2%	4.2%	2.5%	4.0%	4.7%
Public administration	6.4%	3.6%	12.0%	4.4%	7.7%	5.3%	0.0%	5.2%	4.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: US Census Summary File 3; Planning Decisions, Inc.

C-14. Job by Occupation, 2000

Universe: Employed Civilian Population 16 years and over

	Aroost.	Cent.	Interior	West	Moose.	Down.	South/ Islands	LURC	Maine
Managerial/ Professional	21.8%	17.6%	26.3%	24.5%	21.2%	22.2%	27.8%	21.6%	31.5%
Service	19.4%	15.3%	11.2%	16.4%	19.2%	15.0%	5.1%	16.6%	15.3%
Sales	23.8%	17.2%	19.2%	22.1%	25.8%	18.9%	19.0%	21.0%	25.9%
Natural Resource	3.8%	8.4%	3.5%	3.2%	2.9%	5.1%	26.6%	5.2%	1.7%
Construction	12.1%	13.1%	16.6%	14.4%	13.9%	16.0%	21.5%	14.0%	10.3%
Production/ Transportation/ Material Moving	19.1%	28.5%	23.3%	19.5%	17.0%	22.8%	0.0%	21.6%	15.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: US Census Summary File 3; Planning Decisions, Inc.

Appendix D: Pattern of Land Ownership

D-1. Large Land Accounts, more than 50,000 acres, 1985

Large Account Landowner	Type of Owner	Acres
GREAT NORTHERN	IT	1,959,366
PINGREE ASSOCIATES	IT	973,307
INTERNATIONAL PAPER CO	IT	882,267
STATE OF MAINE	GS	616,651
SCOTT PAPER CO	IT	615,102
CHAMPION INTERNATIONAL	IT	473,034
OXFORD PAPER CO	IT	462,057
DIAMOND OCCIDENTAL	IT	326,408
JM HUBER CO	IT	320,815
ST CROIX PULPWOOD CO	IT	200,156
IRVING PULP AND PAPER	IT	196,403
WEBBER TIMBERLANDS	IT	140,039
JOHN CASSIDY TIMBERLANDS	IT	199,579
CONSOLIDATED RAMBLER MINES	IT	125,774
PASSAMAQUODDY INDIAN TRIBE	T	83,470
DUNN HEIRS	IT	83,045
PENOBSCOT INDIAN NATION	T	57,481
DIAMOND INTERNATIONAL	IT	55,692
COBURN LANDS TRUST	NC	50,285

Source: Maine Revenue Services; Planning Decisions, Inc

D-2. Large Land Accounts, more than 50,000 acres, 2005

Large Account Landowner	Type of Owner	Acres
PINGREE ASSOCIATES INC	IT	870,154
SP FOREST LLC	IT	722,777
PLUM CREEK LAND CO	IT	660,848
MAINE STATE OF	GS	638,615
AROOSTOOK TIMBERLAND	IT	618,328
ALLAGASH TIMBERLANDS LP	IT	427,877
BAYROOT LLC	IT	333,784
GREAT NORTHWOODS LLC	IT	287,995
MERRIWEATHER LLC	IT	285,288
KATAHDIN FOREST MANAGEMENT LLC	IT	276,262
HUBER J M CORP	IT	265,108
NATURE CONSERVANCY	NC	247,395
CLAYTON LAKE WOODLANDS	IT	216,961
CASSIDY TIMBERLANDS LLC	IT	212,546
TYPHOON LLC	IT	208,619
LEVESQUE J PAUL & SONS INC	IT	174,981
PASSAMAQUODDY INDIAN RES.	T	116,132
STETSON TIMBERLANDS INC	IT	108,078
WEBBER TIMBERLANDS	IT	104,664
DUNN E G HEIRS	IT	96,842
LINCOLN ASSOC SUCCESSORS	IT	86,997
GRISWOLD HEIRS	IT	78,194
LAKEVILLE SHORES INC	IT	77,259
GREAT LAKES HYDRO AMERICA LLC	U	75,458
CARRIER TIMBERLANDS LLC	IT	69,398
PENOBSCOT INDIAN NATION	T	69,328
FORESTREE 96 LTD PARTNERSHIP	IT	65,311
MOULTON TIMBERLANDS	IT	64,231
UNITED STATES OF AMERICA	GF	62,708
MCCRILLIS TIMBERLANDS INC	IT	61,491
NEW FORESTRY LLC	IT	60,164
GARDNER LAND CO INC	IT	50,908

Source: Maine Revenue Services; Planning Decisions, Inc.