

1999

# Demographic and Economic Characteristics of Washington County, Maine

Robert Roper

*University of Maine Augusta, Bangor*

Follow this and additional works at: [https://digitalcommons.library.umaine.edu/mcspc\\_gov\\_civic](https://digitalcommons.library.umaine.edu/mcspc_gov_civic)

---

## Repository Citation

Roper, Robert, "Demographic and Economic Characteristics of Washington County, Maine" (1999). *Government & Civic Life*. 13.  
[https://digitalcommons.library.umaine.edu/mcspc\\_gov\\_civic/13](https://digitalcommons.library.umaine.edu/mcspc_gov_civic/13)

This Report is brought to you for free and open access by DigitalCommons@UMaine. It has been accepted for inclusion in Government & Civic Life by an authorized administrator of DigitalCommons@UMaine. For more information, please contact [um.library.technical.services@maine.edu](mailto:um.library.technical.services@maine.edu).

**Demographic and Economic Characteristics  
of Washington County, Maine**

1970-1996

**Margaret Chase Smith Center for Public Policy  
University of Maine**

**Robert K. Roper  
Associate Professor of Business Management  
University College of Bangor  
University of Maine at Augusta**

**January, 1999**

**Commissioned by The Ellsworth American  
Ellsworth, Maine**

**DEMOGRAPHIC AND ECONOMIC  
CHARACTERISTICS OF WASHINGTON COUNTY, MAINE**

**1970-1996**

**Table of Contents**

<b>Introduction to the Washington County, Maine Report .....</b>	<b>1</b>
<b>Section I: Population and Demographic Profile of Washington County, Maine: 1970-1996</b>	
Summary of Washington County's Demographic and Economic History .....	3
Population and Demographic Profile of Washington County: 1970-1996 .....	4
<b>Section II: Economic Profile of Washington County, Maine: 1970-1996</b>	
Introduction .....	17
Part 1: Sources of Income for Washington County Residents .....	18
Part 2: The Changing Economic Structure of Washington County .....	20
Part 3: Analysis of Washington County Retail Sales .....	35
<b>Section III: Analysis of Current and Possible Economic Development Strategies for Washington County, Maine</b>	
Introduction .....	41
Part 1: The Economic Base Concept and its Relevance to Economic Development in Washington County .....	41
Part 2: Economic Development Initiatives for Washington County .....	42
Part 3: Conclusions and Other Possible Economic Development Initiatives ....	50
<b>References .....</b>	<b>63</b>

Demographic And Economic  
Characteristics Of Washington County, Maine  
1970-1996

- Table 1: Washington County, Comparison Counties, Maine Population: 1970, 1980,1990,1996
- Table 2: Washington County Town Population and Net Relative Change: 1970, 1980, 1990
- Table 3: Washington County Town Population and Net Change: 1970, 1980, 1990
- Table 4: Washington County and Maine: 1970-1990 Age Group Proportions
- Table 5: Washington County, Comparison Counties, Maine K-12 Public School Enrollment: 1990-1996
- Table 6: Washington County, Comparison Counties, Maine Educational Attainment of Persons Over 18 in 1990
- Table 7: Washington County, Comparison Counties, Maine Population Poverty Rates: 1970, 1980, 1990, 1993
- Table 8: Washington County, Comparison Counties, Maine Percentage of Families with Children Under 18 Headed by a Female Head of Household: 1990
- Table 9: Washington County, Comparison Counties, Maine Number of Births and Percentage of Births to Mothers Under 20: 1993
- Table 10: Washington County, Comparison Counties, Maine Per-Capita Personal Income and Sources of Personal Income: 1996
- Table 11: Washington County Durable and Non-Durable Manufacturing Sub-Sectors Inflation-Adjusted Income From Work (1996 Dollars): 1970, 1990,1996
- Table 12: Washington County Services Sub-Sectors Inflation Adjusted Income From Work (1996 Dollars): 1970, 1990, 1996
- Table 13: Washington County Government Sub-Sectors Inflation Adjusted Income From Work (1996 Dollars): 1970, 1990, 1996
- Table 14: Washington County Retail Sub-Sectors Inflation Adjusted Income From Work (1996 Dollars): 1970, 1989, 1996

- Table 15: Washington County Transportation Sub-Sectors  
Inflation Adjusted Income From Work (1996 Dollars): 1970, 1990, 1996
- Table 16: Washington County Construction Sub-Sectors  
Inflation Adjusted Income From Work (1996 Dollars): 1970,1990, 1996
- Table 17: Washington County Farming Sector  
Inflation Adjusted Income From Work (1996 Dollars): 1970, 1990, 1996
- Table 18: Washington County Agricultural, Forestry, Fishing Services Sub-Sectors  
Inflation Adjusted Income From Work (1996 Dollars): 1970, 1990, 1996
- Table 19: Washington County Wholesale Trade Sector  
Inflation Adjusted Income From Work (1996 Dollars): 1970, 1990, 1996
- Table 20: Washington County Finance, Insurance, Real Estate (FIRE) Sub-Sectors  
Inflation Adjusted Income From Work (1996 Dollars): 1970, 1990, 1996
- Table 21: Washington County, Comparison Counties, Maine  
Sector Contribution to Income From Work: 1996
- Table 22: Washington County Sectors: 1970, 1990, 1996  
Total Average Number of Jobs and 1996 Average Weekly Wage
- Table 23: Washington County, Comparison Counties, Maine  
Annual Unemployment Rate: 1990, 1993, 1996
- Table 24: Washington County and Maine: 1996  
Percent of All Jobs in Each Sector
- Table 25: Washington County Taxable Consumer Sales: 1990, 1996, 1997 (\$000),  
Percent Change for Washington County, Comparison Counties, Maine
- Table 26: Washington County, Comparison Counties, Maine  
Inflation Adjusted Total Income From Work and Dividend, Interest, and  
Income (\$000) 1990 versus 1996
- Graph 1: Washington County Sources of Personal Income: 1970-1996
- Graph 2: Hancock County Sources of Personal Income: 1970-1996
- Graph 3: Penobscot County Sources of Personal Income: 1970-1996
- Graph 4: Piscataquis County Sources of Personal Income: 1970-1996
- Graph 5: Maine Sources of Personal Income: 1970-1996

- Graph 6: Washington County Sector Contribution to Personal Income Earned From Work: 1970
- Graph 7: Washington County Sector Contribution to Personal Income Earned From Work: 1996
- Graph 8: Washington County Sector Contribution Total Number of Jobs: 1970
- Graph 9: Washington County Sector Contribution Total Number of Jobs: 1990
- Graph 10: Washington County Surplus and Leakage of Taxable Retail Sales: 1990 versus 1996

## INTRODUCTION

Washington County, Maine is a county of contradictions and uniqueness. It has the highest unemployment rate in Maine, yet the population is not falling. Its agricultural economy has expanded while agriculture has been declining in all other Maine counties. This report examines Washington County's changing demographics and economic structure between 1970 and 1996. This twenty-six year period was selected for two reasons. Accurate demographic and economic data are available for this period, and by examining a twenty-six year time frame, the dynamics of population and economic change can be shown.

The report contains three sections. **Section I** opens with a brief summary of Washington County's history. Following this is an analysis of Washington County's population that evaluates selected demographic characteristics such as age, educational attainment, poverty, and family composition. Comparisons with other counties in the region and the state as a whole are made. Hancock, Penobscot, and Piscataquis counties are the comparison counties. **Section II** describes Washington County's economy and begins by examining the sources of income for Washington County residents. Next is a detailed analysis of Washington County's economy at the sector and sub-sector levels over the 1970-1996 period. This is the heart of the report. Section II closes by examining Washington County's retail sector. **Section III** is more policy oriented. It reviews economic base theory and its relevance to economic development. This is followed by a summary of current initiatives to stimulate Washington County's economy. They are examined in the context of the report's findings. The report concludes by offering several suggestions for stimulating Washington County's economy and lowering unemployment.

### **Data Sources, Methods, and Limitations of the Report**

The U.S. Bureau of Census and the Bureau of Economic Analysis (BEA) are the principal sources of data for this report. Most of the demographic data come from the Bureau of Census. Most of the economic data comes from the BEA's Regional Economic Information System (REIS).

By mutual agreement, The Ellsworth American editorial staff and the Margaret Chase Smith Center for Public Policy chose to limit comparison regions to Hancock, Penobscot, and Piscataquis counties and the state as a whole. We did not want to publish yet another northern Maine/southern Maine comparison. Instead, we were interested in how Washington County appears when compared with north-central and northeastern counties. Hancock County was selected because it is adjacent to and shares a strong 'Downeast' heritage with Washington County. Penobscot County was selected because its largest city, Bangor, is the dominant retail destination for northern and eastern Maine. Bangor is also the only metropolitan statistical area (MSA) in northern Maine. Piscataquis County was selected because it shares some of the same demographic and economic characteristics as Washington County. These four counties constitute most of central and eastern Maine.

This report was commissioned by The Ellsworth American newspaper to support a three part series on Washington County. The report is not intended to be an exhaustive or highly technical analysis. For example, absent is a detailed analysis of population migration into or out of Washington County that would support a more thorough explanation of the population statistics. Also absent is a formal examination of the sector relationships that can be estimated using more advanced economic analysis techniques such as input-output and econometric modeling methods. These analyses were deliberately omitted to improve readability and make the report more accessible.

Margaret Chase Smith Center for Public Policy, University of Maine

Robert K. Roper, Associate Professor of Business Management, University College of Bangor, University of Maine at Augusta



## SECTION I

### Summary of Washington County's Demographic and Economic History

Washington County is the easternmost county in the United States. Named after President George Washington, many call it 'The Sunrise County.' Washington County was established in 1789 when it separated from Hancock County to its west. To many, Washington County is simply the easternmost of the many coastal Maine counties comprising "Downeast" Maine. With its rugged fir and spruce blanketed rock coast, small fishing villages and picturesque lighthouses, Washington County means coast. Yet geographically, Washington County is much more. Inland, the geography includes sandy soil, vast blueberry barrens and forest. Interior lakes such as Sysladobsis, West Grand, East Grand, Junior, and Meddybemps offer both warm and cold water angling. In the heart of this lakes region lies Grand Lake Stream. Both a town and a waterway, it is famous for its landlocked salmon fly-fishing, guiding services, and warm hospitality.

One hundred and fifty years ago, Washington County had an economy based on adding value to natural resources. To an important extent, it still does today. These resources were in demand by a growing nation. In Eastport and Lubec, one important resource was herring. Between 1850 and World War I, these towns became the center of the nation's sardine industry. This powerful export industry also created supply and exports in other fish by-products such as pearl essence made from herring scales. Ornate and large Victorian homes in Lubec and Eastport are memorials to the wealth created from these industries.

Farther west down the coast is Machias. It is the County Seat and home of the University of Maine at Machias, formerly the Washington State Normal School. Shipping and lumber were once Machias' major activities. The celebrated film "From Stump to Ship" documents the logging activities that allowed pine and other softwoods in the Machias River watershed to move from the County's northern areas to Machias. Here the logs were sawed and exported by ship to eastern and southern ports. Shipbuilding also was commercially present. Machias later became involved with agriculture as wild blueberries became a significant cash crop.

To the north of Eastport lies the St. Croix River city Calais, the county's largest city. This area is home to the county's only paper mill, currently owned by the Georgia Pacific Corporation and located just north in Baileyville (Woodland). Operated for years by the St. Croix Paper company, this mill produces hardwood market pulp and specialty and fine papers for export nationally and internationally. Its power and wood come partly from the lakes and woods that make up the St. Croix watershed. The Calais area was and continues to be an important commercial, tourist, and manufacturing center. It is also a primary point of entry for Canadians entering the United States.

From 1850-1960, Washington County's population fluctuated. In 1850, its population was 38,811 and grew to 45,232 in 1900. However, by 1930 the population had fallen to 37,826. It continued to fall over the next 40 years, declining to 29,859 in 1970, the lowest during the 1850-1996 period. Washington County's 1996 estimated population was 36,109.

**Population and Demographic Profile  
of Washington County, Maine  
1970-1996**

This section discusses demographic changes in Washington County's population between 1970 and 1996. Most of the demographic data reported are from the 1970, 1980, and 1990 censuses. Data reported for the years after 1990, except number of births, are estimates made by the U.S. Bureau of Census. The demographic characteristics examined are population, age, educational attainment, poverty, and family type.

**Population**

Table 1 shows population figures for Washington County, the comparison counties, and Maine for the period 1970-1996.

County/State	1970	1980	1990	1996 (Estimated)	% Change '70-'96	% Change '90-'96
Washington	29,859	34,963	35,308	36,109	20.9%	2.3%
Hancock	35,590	41,781	46,948	49,226	38.3%	4.9%
Penobscot	125,393	137,015	146,601	143,895	14.8%	-1.9%
Piscataquis	16,285	17,654	18,653	18,343	12.6%	-1.7%
Maine	992,048	1,124,660	1,227,928	1,238,556	24.8%	0.9%

**Source:** Bureau of Census ('70-'96); and Bureau of Economic Analysis ('96)

Between 1970 and 1996, the population in the comparison counties and the state as a whole increased, with most of that growth occurring in the '70-'80 period.<sup>1</sup> Washington County's population increased at a rate behind Maine but ahead of Penobscot and Piscataquis counties. Hancock County's growth was the largest at 38.3%. During the more recent 1990-1996 period, population change has been inconsistent. While Washington and Hancock counties experienced some population growth overall, Penobscot and Piscataquis counties experienced declines. Maine's total population increased very modestly over the 1990-1996 period.

Washington County's recent population growth reflects the statewide phenomenon of coastal Maine counties gaining population. Between 1990 and 1996 all of Maine's coastal counties experienced population growth to varying degrees. Among these counties, however, Washington County's population growth was the least. In the last two years, Washington County is the only coastal county to have lost population, albeit slightly. Population decline in Penobscot and Piscataquis counties reflects the growing phenomenon of northern interior Maine counties losing population. The northern counties of Aroostook, Franklin, Piscataquis, and Penobscot accounted for 77% of the total state population lost between 1990 and 1996. The other two counties losing population are Kennebec and Androscoggin, located in the south-central part of Maine.

<sup>1</sup> Population change is caused by changes in births and deaths as well as changes in migration. Changes in these individual factors are not presented in this report.

## **Population Change Within Washington County**

Washington County is very rural. In 1990, 91.0% of the population lived in areas defined by the U.S. Census Bureau as rural (any town with fewer than 2,500 inhabitants). In Maine, 55.4% of the population lived in rural areas, reflecting population concentration in southern, more urban Maine. Most of Washington County's population lives along its coast or slightly inland. Its larger towns, Milbridge, Columbia, Jonesport, Machias, Lubec, Eastport, and Calais are all coastal. The interior and northern areas of the county contain primarily small towns numbering fewer than 500 in population (Danforth and Princeton/Passamaquoddy Township are the exceptions).

Table 2 presents the population of all Washington County towns arranged by their relative population change between 1970 and 1990. The relative change represents the percentage of people the town gained or lost between 1970 and 1990. Table 3 presents the population of all Washington County towns arranged by their net population change between 1970 and 1990. The net change represents the actual number of people the town gained or lost between 1970 and 1990.

Four of the five towns experiencing the largest net increases are close to each other in the southwestern part of the county. The five towns with the largest net decreases in population are along the eastern border with Canada and the easternmost coastal section of the county. Most of the towns experiencing the largest relative increases and decreases in population are in the central and northern sections of the county.

TABLE 2							
WASHINGTON COUNTY							
TOWN POPULATION AND NET RELATIVE CHANGE: 1970, 1980, 1990							
TOWN	1970	1980	1990	NET RELATIVE	NET RELATIVE	NET RELATIVE	
				CHANGE	CHANGE	CHANGE	
				'70-'80	'80-'90	70-'90	
Deblois	20	44	73	120.0%	65.9%	265.0%	
Alexander	169	385	478	127.8%	24.2%	182.8%	
Columbia	162	275	437	69.8%	58.9%	169.8%	
Talmadge	25	40	62	60.0%	55.0%	148.0%	
Passamoquoddy Township	293	423	617	44.4%	45.9%	110.6%	
Marshfield	227	416	461	83.3%	10.8%	103.1%	
Passamoquoddy Pleasant Pt.	307	549	572	78.8%	4.2%	86.3%	
Meddybemps	76	110	133	44.7%	20.9%	75.0%	
Northfield	57	88	99	54.4%	12.5%	73.7%	
Waite	70	130	119	85.7%	-8.5%	70.0%	
Harrington	553	859	893	55.3%	4.0%	61.5%	
Centerville	19	28	30	47.4%	7.1%	57.9%	
Steuben	697	970	1084	39.2%	11.8%	55.5%	
Whitneyville	155	264	241	70.3%	-8.7%	55.5%	
Cherryfield	771	983	1183	27.5%	20.3%	53.4%	
Roque Bluffs	153	244	234	59.5%	-4.1%	52.9%	
Baring	181	308	275	70.2%	-10.7%	51.9%	
Whiting	269	335	407	24.5%	21.5%	51.3%	
Columbia Falls	367	517	552	40.9%	6.8%	50.4%	
Addison	773	1061	1114	37.3%	5.0%	44.1%	
Cooper	88	105	124	19.3%	18.1%	40.9%	
Charlotte	199	300	271	50.8%	-9.7%	36.2%	
Beddington	32	36	43	12.5%	19.4%	34.4%	
Topsfield	177	240	235	35.6%	-2.1%	32.8%	
Perry	571	737	758	29.1%	2.8%	32.7%	
E. Central Washington Unorg.	498	625	661	25.5%	5.8%	32.7%	
Wesley	110	140	146	27.3%	4.3%	32.7%	
Cutler	588	726	779	23.5%	7.3%	32.5%	
Machiasport	887	1108	1166	24.9%	5.2%	31.5%	
Jonesboro	448	553	585	23.4%	5.8%	30.6%	
Dennysville	278	296	355	6.5%	19.9%	27.7%	
Robbinson	396	492	495	24.2%	0.6%	25.0%	
Pembroke	700	920	852	31.4%	-7.4%	21.7%	
Crawford	74	86	89	16.2%	3.5%	20.3%	
East Machias	1057	1233	1218	16.7%	-1.2%	15.2%	
Jonesport	1326	1512	1525	14.0%	0.9%	15.0%	
Milbridge	1154	1306	1305	13.2%	-0.1%	13.1%	
Machias	2441	2458	2569	0.7%	4.5%	5.2%	
Princeton	956	994	973	4.0%	-2.1%	1.8%	
Beals	663	695	667	4.8%	-4.0%	0.6%	
North Washington Unorg.	500	393	496	-21.4%	26.2%	-0.8%	
Eastport	1989	1982	1965	-0.4%	-0.9%	-1.2%	
Calais	4044	4262	3963	5.4%	-7.0%	-2.0%	
Lubec	1949	2045	1853	4.9%	-9.4%	-4.9%	
Baileyville(Woodland)	2167	2188	2031	1.0%	-7.2%	-6.3%	
Grand Lake Stream	186	198	174	6.5%	-12.1%	-6.5%	
Danforth	794	826	710	4.0%	-14.0%	-10.6%	
Codyville	45	43	35	-4.4%	-18.6%	-22.2%	
Vanceboro	263	256	201	-2.7%	-21.5%	-23.6%	
Plantations 14, 21	112	179					
TOTAL*	30,036	34,963	35,308				

US Department of Commerce, Bureau of the Census, 1980 & 1990, Census of the Population

\*Individual town populations do not sum to the reported county total for 1970.

TABLE 3						
WASHINGTON COUNTY						
TOWN POPULATION AND NET CHANGE: 1970, 1980, 1990						
				NET	NET	NET
	1970	1980	1990	CHANGE	CHANGE	CHANGE
TOWN				'70-'80	'80-'90	70-'90
Cherryfield	771	983	1183	212	200	412
Steuben	697	970	1084	273	114	387
Addison	773	1061	1114	288	53	341
Harrington	553	859	893	306	34	340
Passamoquoddy Township	293	423	617	130	194	324
Alexander	169	385	478	216	93	309
Machiasport	887	1108	1166	221	58	279
Columbia	162	275	437	113	162	275
Passamoquoddy Pleasant Pt.	307	549	572	242	23	265
Marshfield	227	416	461	189	45	234
Jonesport	1326	1512	1525	186	13	199
Cutler	588	726	779	138	53	191
Perry	571	737	758	166	21	187
Columbia Falls	367	517	552	150	35	185
E. Central Washington Unorg.	498	625	661	127	36	163
East Machias	1057	1233	1218	176	-15	161
Pembroke	700	920	852	220	-68	152
Milbridge	1154	1306	1305	152	-1	151
Whiting	269	335	407	66	72	138
Jonesboro	448	553	585	105	32	137
Machias	2441	2458	2569	17	111	128
Robbinson	396	492	495	96	3	99
Baring	181	308	275	127	-33	94
Whitneyville	155	264	241	109	-23	86
Roque Bluffs	153	244	234	91	-10	81
Dennysville	278	296	355	18	59	77
Charlotte	199	300	271	101	-29	72
Topsfield	177	240	235	63	-5	58
Meddybemps	76	110	133	34	23	57
Deblois	20	44	73	24	29	53
Waite	70	130	119	60	-11	49
Northfield	57	88	99	31	11	42
Talmadge	25	40	62	15	22	37
Cooper	88	105	124	17	19	36
Wesley	110	140	146	30	6	36
Princeton	956	994	973	38	-21	17
Crawford	74	86	89	12	3	15
Beddington	32	36	43	4	7	11
Centerville	19	28	30	9	2	11
Beals	663	695	667	32	-28	4
North Washington Unorg.	500	393	496	-107	103	-4
Codyville	45	43	35	-2	-8	-10
Grand Lake Stream	186	198	174	12	-24	-12
Eastport	1989	1982	1965	-7	-17	-24
Vanceboro	263	256	201	-7	-55	-62
Calais	4044	4262	3963	218	-299	-81
Danforth	794	826	710	32	-116	-84
Lubec	1949	2045	1853	96	-192	-96
Baileyville(Woodland)	2167	2188	2031	21	-157	-136
Plantations 14, 21	112	179		-112		
TOTAL *	30036	34963	35308			

US Department of Commerce, Bureau of the Census, 1980 & 1990, Census of the Population

\*Individual town populations do not sum to the reported county total for 1970.

## Age

Table 4 presents the percent of the population in five age groups for Washington County and Maine.

Age Group	1970		1980		1990	
	Wash.	Maine	Wash.	Maine	Wash.	Maine
0 - 19 Years	36%	38%	33%	32%	29%	28%
20 - 39 Years	21%	24%	27%	31%	28%	32%
40 - 59 Years	22%	22%	21%	20%	22%	22%
60-74 Years	14%	11%	13%	12%	14%	12%
75 and Over	6%	5%	6%	5%	7%	6%
TOTAL	100%	101%	100%	100%	100%	100%
MEDIAN AGE	33.4 years	26.6 years	33.0 years	31.7 years	35.6 years	33.9 years

**Source:** Bureau of the Census

For any decade, the greatest difference between Washington County and Maine lies in the 20-39 year old group (cohort). In each decade, Washington County had three to four percent fewer 20-39 year old residents than did Maine as a whole. The next largest difference exists in the 60-74 year old group. In 1970 and 1990, Washington County had two to three percent more 60-74 year old residents that did Maine as a whole. These differences account for the higher median age in Washington County.

Some interesting age shifts have occurred in Washington County. First, persons 19 years old and younger as a percent of the population declined while the percentage of 20-39 year olds increased. Second, the percent of the population between 40 and 59 years old remained unchanged. Third, the percentage of the population 60 years and older increased only slightly between 1970 and 1990. During the twenty-year period from 1970 to 1990, median age in Washington County increased from 33.4 to 35.6 years.

The age changes observed for Washington County generally reflect age shifts in the state as a whole. During the 1990s Maine has disproportionately lost population in the 15-24 year old group through net out-migration. Maine's 19 year old and younger group also declined but to a greater extent than in Washington County. In the 20-39 year old group, the percentage increases are quite similar, while the 40-59 year old group percentages remained virtually constant for both. The percentage of residents 60 years and older increased only 1% for Washington County and 2% for Maine between 1970 and 1990. During the 1970-1990 period, Washington County's median age (33.4 in 1970, 35.6 in 1990) remained higher than the median age of the state as a whole (26.6 in 1970, 33.9 in 1990).

Between 1990 and 1996, it is likely Washington County's population aged at a rate faster than Maine as a whole. An examination of kindergarten through 12<sup>th</sup> grade public school enrollment figures suggests this may be true. Table 5 presents public school enrollment figures for Washington County, the comparison counties, and Maine.

County/State	1990	1993	1996	Percent Change: '90-'96
Washington	6,984	6,699	5,809	-16.8%
Hancock	7,847	8,457	8,338	5.9%
Penobscot	25,269	25,893	24,830	-1.7%
Piscataquis	3,556	3,972	3,246	-8.7%
Maine	210,200	216,943	210,074	Essentially Unchanged

**Sources:** Maine Department of Education; and Eastern Maine Development Corporation

Between 1990 and 1996, Washington County lost nearly 17% of its K-12 public school enrollment while Maine public school enrollment remained essentially unchanged. Among the comparison counties, only Hancock County experienced an enrollment increase. Several factors may be responsible for Washington County's K-12 decline. They include an increased out-migration of families with children or decreased in-migration of families with children. In addition, the aging population might produce a



decline in the number of births. Whatever the reason, the decline in Washington County's public school enrollment suggests a continued increase in median age.

### Educational Attainment

Educational attainment is defined as the highest level of formal education earned by a person. Table 6 presents the 1990 educational attainment for persons over 18 years of age in Washington County, the comparison counties, Maine, and New England.

County/State	Less than 12th Grade	High School Grade, Some College	Associate or Bachelor Degree	Master's Degree or Higher	TOTAL <sup>A</sup>
Washington	26.8%	57.0%	12.7%	3.6%	100.1%
Hancock	17.0%	56.8%	19.6%	6.7%	100.1%
Penobscot	19.7%	57.9%	17.1%	5.2%	99.9%
Piscataquis	25.3%	56.9%	14.8%	3.2%	100.2%
Maine	21.1%	55.4%	18.4%	5.3%	100.2%
New England	20.3%	49.3%	21.9%	8.5%	100.0%

A. Row percentages may not add to 100.0% due to rounding.

**Sources:** Bureau of Census; and Eastern Maine Development Corporation

Washington County's population has the lowest level of educational attainment of all the regions. Almost 27% of its residents do not have a high school education. Only 16.3% have an associate degree or higher compared to 23.7% in Maine and 30.5% in New England. Educational attainment also differentiates Washington County residents from their counterparts in neighboring counties (except Piscataquis County), Maine and New England.

Several factors are associated with Washington County's lower educational attainment levels. One is the unemployment rate. Washington County's average annual unemployment rates are among the highest in the state. Washington County's average annual unemployment rate in 1990 was 7.4%. By 1993 it climbed to 13.1% and then fell to 9.5% in 1997. In comparison, Maine's average annual unemployment rates for 1990, 1996, and 1997 were 5.1%, 5.1%, and 5.4%, respectively. Thus, young college educated Washington County residents may be seeking employment outside the county and moving to that employment, thereby skewing the county's educational attainment levels.

Many jobs in Washington County do not require a post-secondary education. In 1970, 10.3% of the jobs in Washington County were in the farming and agricultural/forestry/fishing services sectors. In 1996, 12.7% of the jobs in Washington County were in the farming and agricultural/forestry/fishing services sectors. Occupations in these sectors require less formal education. In Maine, only 3.5% of the 1996 jobs were in these sectors. The larger number of employment opportunities in these sectors may dissuade Washington County high school graduates from furthering their education if they decide to continue living in the county.<sup>2</sup>

Another factor that may affect educational attainment is the extent to which new firms are locating in Washington County. A poorly educated workforce is a signal to outside firms not to locate in a region if they require a labor pool with college acquired skills. Firms reviewing educational attainment statistics for Washington County compared to other Maine counties and New England areas can select locations with higher skilled labor pools.

## **Poverty Rates**

Associated with Washington County's low educational attainment levels and high unemployment rates is its historically high poverty rate. Table 7 displays the poverty

---

<sup>2</sup> Currently, Washington County high school graduates continue their education at rates similar all Maine high school graduates. In 1990, 55.9% of Washington County high school graduates went on to college. In Maine, 55.2% did so. In 1996, the rate increased to 58.5% for Washington County and 61.6% for Maine. (Maine Department of Education)

rates for Washington County, the comparison counties, and Maine for the period 1970-1993. 1993 is the last year for which county and state poverty estimates are available.

County/State	1970	1980	1990	1993 (Estimated)
Washington	23.2%	21.6%	19.3%	21.8%
Hancock	16.9%	14.6%	10.0%	13.4%
Penobscot	13.3%	13.0%	13.0%	14.9%
Piscataquis	14.9%	14.1%	15.2%	15.9%
Maine	13.6%	13.0%	10.8%	13.7%

Source: Bureau of Census<sup>3</sup>

In 1993, slightly more than one in every five persons in Washington County lived in poverty (21.8%). Since 1970, Washington County has had the highest poverty rate of all the counties in Maine. In 1993, Washington County's poverty rate was almost 60% above the state as a whole. Washington County is the poorest county in Maine. Its 1993 median household income was \$23,011, compared to the state's median income of \$28,732.

### Family Composition

The analysis of Washington County's demographics concludes with an examination of family characteristics that influence poverty. Two characteristics are examined. The first is the percentage of families with children under 18 that are headed by single females with no husband present. The second is the percent of all births that are to mothers under 20 years of age.

<sup>3</sup> The poverty rate refers to the percentage of persons in a population who receive a level of income below that which the U.S. Department of Human Services believes is necessary to not live in poverty. In 1993, \$14,350 was considered the poverty income cut-off for a family of four. Thus, if a family of four realized an income (before taxes) of \$14,000, all four individuals would be considered living below the poverty level.

Table 8 presents the percentage of 1990 families in Washington County with children under 18 that have a female head of household (no husband in household). The figures in Table 8 suggest that Washington County is not much different from the comparison counties or Maine on this characteristic. The percentage of female headed households in Washington County is below Penobscot County, two percentage points above Hancock and Piscataquis counties, and only slightly higher than all of Maine.

County/State	Number	Percent of Families <sup>1</sup>
Washington	796	17.5%
Hancock	934	15.6%
Penobscot	3,394	18.0%
Piscataquis	384	15.6%
Maine	27,657	17.2%

**Source:** Bureau of Census

However, this group in Washington County has become the poorest of the single-family household groups in Maine. During the 1980s, poverty in Washington County increasingly became concentrated among female-headed families with no husband present. In 1990, the poverty rate of female headed families with children under the age of 18 in Washington County was 56.1% - the highest among such families in the state.

What also differentiates Washington County from the other regions is the percentage of all births to mothers under 20 years of age. Table 9 presents these figures for 1993 (last year for which data were available through the Bureau of Census).

The percentage of births to mothers under twenty years old is much higher in Washington County than in all the comparison counties and in Maine. Young mothers who stay at home to raise their children face substantial barriers in acquiring a post-secondary education and employment.

County/State	Number of Births	Percent of Births to Mothers Under 20
Washington	445	15.3%
Hancock	569	10.2%
Penobscot	1,692	10.3%
Piscataquis	164	9.1%
Maine	15,065	10.1%

**Source:** National Center for Health Statistics

## Summary

Washington County's population has grown between 1970 and 1996, with the greatest growth occurring between 1970 and 1980. Washington County's population has fluctuated during the 1990s and increased slightly through 1996. That population growth differentiates Washington County from interior Penobscot and Piscataquis counties, and much of northern Maine, which lost population between 1990 and 1996.

Washington County has experienced change in its population's age groups. Between 1970 and 1990, the percentage of the population aged 19 years and younger declined and the percentage between 20 and 39 years increased. The percentage of residents aged 60 and older increased only slightly. These changes generally reflect Maine as a whole. Between 1990 and 1996, Washington County's school enrollment declined at a much faster rate than the comparison counties and the entire state. These more recent enrollment statistics suggest that Washington County may be losing its youngest

residents at an accelerated rate. In 1995, the U.S. Bureau of Census estimated that 16.1% of Washington County's residents were 65 years or older. In Maine, 13.9% were estimated to be 65 years or older.

Washington County residents have less formal education than residents in the comparison counties, Maine, and New England. A much higher percentage of residents in Washington County live below the poverty level than do residents in the comparison counties and Maine. The analysis of family composition reveals that Washington County is similar to comparison areas concerning the percentage of households with children under 18 headed by females. However, Washington County has a much higher percentage of children born to mothers under 20 years of age. The poverty rate of Washington County's female-headed household was 56.1% in 1990, the highest county poverty rate for this group in Maine for 1990.

## SECTION II

### Economic Profile of Washington County, Maine 1970-1996

#### Introduction

As Washington County's demographic characteristics have changed over time, so has its economy. This section describes Washington County's current (as of 1996) economic structure and how it has changed since 1970. As in the previous section, Hancock, Piscataquis, and Penobscot counties and Maine as a whole are included for comparison purposes.

This section comprises three parts. **Part I** examines the three sources of income for Washington County residents: *income from work; income from dividends, interest, and rent; and income from transfer payments*. Of the three sources, only income from work is derived from county economic activity. Understanding the differences among these income sources is important for understanding Washington County's low per-capita income level and its economic structure.

**Part II** examines Washington County's economic structure. The term 'economic structure' refers to the many sectors or types of economic activity that generate *income from work* and *employment* for a region's residents. Both of these measures are used to describe economic structural composition and change, although this report emphasizes the role of income from work.

**Part III** focuses on Washington County's retail sector. Taxable retail sales from 1990-1997 are reported and a 'Trade Area Analysis' is presented. The Trade Area Analysis leads to conclusions regarding the strengths and weaknesses of Washington County's retail sector.

## PART I: Sources of Income for Washington County Residents

In 1996, the total personal income for Washington County residents was \$592,411,000. Per-capita income was \$16,406. Per-capita income increased 1.9% between 1990 and 1996, compared to an increase of 2.2% in Maine during the same period.

Washington County residents acquired personal income from three sources: income from work; income from dividends, interest, and rent; and income from transfer payments.

Income from work includes employee wages and salaries and proprietor income earned by individuals, after their contributions to Social Security have been deducted.

Dividend/interest/rent income comes from stock dividends, interest on bonds, savings accounts and CDs, and rent. A minority of this income is derived from current local economic activity.

Transfer income is income 'transferred' to individuals by federal and state governments, for which no goods or services are provided or expected in return. This type of income is not derived from current local economic activity, either. The primary categories of transfer income in order of size are Social Security, medical insurance (Medicaid and Medicare), veterans' benefit payments, and income maintenance (food stamps and income assistance to families).

Table 10 presents per-capita income and the percent contribution each income type made to Washington County, the comparison counties, and Maine in 1996.

Table 10 reveals that Washington County residents rely more on transfer income than residents of any other comparison county or Maine as a whole. Almost 33 cents of every dollar of income came from transfer payments in 1996. On a per capita basis, Washington County residents received \$5,365 of transfer income in 1996. In Maine, the per-capita figure was \$4,280. The difference is primarily due to higher per-capita Medicaid and income maintenance payments in Washington County. The table also reveals that just over half the income accruing to Washington County residents comes from economic activity within the county. Almost 54 cents of every income dollar came from income from work. This is also true for Hancock County, but Hancock County residents receive a much higher proportion of their total personal income from



dividends, interest, and rent than do Washington County residents. That income is derived from wealth and reflects Hancock County's popularity as a vacation/resort and retirement destination. Counties with low per-capita incomes, such as Washington and Piscataquis, exhibit a higher reliance on transfer income and a lower reliance on the other two sources of income.

County/State	Per Capita Income	Sources of Personal Income			Total
		Income From Work	Div/Int/Rent Income	Transfer Income	
Washington	\$16,406	53.8%	13.5%	32.7%	100.0%
Hancock	\$22,411	53.2%	27.9%	18.9%	100.0%
Penobscot	\$19,495	64.6%	13.6%	21.8%	100.0%
Piscataquis	\$15,929	54.6%	16.9%	28.5%	100.0%
Maine	\$21,087	61.4%	18.3%	20.3%	100.0%

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

The changing importance of the three income types over time for Washington County, the comparison counties and Maine is shown in Graphs 1 through 5 (at end of report). These graphs present the percent contribution that each income source made to total personal income between 1970 and 1996. For Washington County, the transfer income contribution increased, the dividend/interest/rent contribution remained essentially constant, and the income from work contribution decreased.

These changes are particularly evident between 1990 and 1996. The same is essentially true for Piscataquis County. In Hancock County transfer income contributions changed little, income from work decreased, and the dividend/interest/rent income increased notably. Both Penobscot County and Maine as a whole maintained a higher income from work contribution than the other counties described here. Both these areas realized contributions from work of 60% or higher in 1996, although these contributions are declining.

## **PART 2: The Changing Economic Structure of Washington County**

In this report, economic structure refers to the various economic sectors that together form an economy. Eleven economic sectors, as defined by the U.S. Department of Commerce, form a region's economic structure. They are:

- farming;
- agricultural, forestry and fishing services (AG/FR/FH);
- mining;
- construction;
- manufacturing;
- transportation and public utilities;
- wholesale trade;
- retail trade;
- services;
- finance, insurance, and real estate (FIRE), and
- government.

In turn, each sector is comprised of sub-sectors. This sector and sub-sector system is called The Standard Industrial Classification System (SIC).

### **Using Income from Work to Describe Economic Sector Size and Change**

Between 1970 and 1996, income from work in Washington County increased from \$224 million to \$341 million in 1996 inflation-adjusted dollars, a 52.2% increase.<sup>4</sup> Income grew in all economic sectors between 1970 and 1996 except mining and AG/FR/FH services. However, during the more recent 1990 to 1996 period, seven sectors experienced income decline. They are manufacturing, government, retail trade, transportation, construction, farming, and AG/FR/FH services. The remaining four sectors grew during the 1990-1996 period.

Accompanying the income growth were changes in the relative importance in sectoral contribution to income. Graphs 6 and 7 (at end of report) illustrate each sector's

---

<sup>4</sup>The Consumer Price Index (CPI) was used to convert income into 1996 inflation-adjusted dollars. Thus, 1996 income figures are not adjusted. Income figures for previous years have been adjusted upward to account for the corrosive effect of inflation on income buying power. Converting each year's actual (nominal) income value to its 1996 (real) value is necessary to accurately measure sector change.

relative importance in generating income to residents. Between 1970 and 1996, dramatic change occurred in manufacturing and in services. Manufacturing's contribution declined considerably while service's importance grew considerably. As is true for Maine in general, in 1996, manufacturing, services, and government were the three largest sectors. AG/FR/FH services, FIRE, and mining were the three smallest.

It is important to note, however, that this analysis only considers income from market and governmental sources *directly* attributable to a sector. The economic benefits of tourism, largely accounted for in the service and retail sectors, are in part due to the natural beauty and way of life in Maine and Washington County in particular. To the extent that AG/FR/FH and farming sectors maintain and enhance tourism, they properly deserve some additional, unquantified, recognition for their economic impact in Washington County and Maine as a whole.

Following is a detailed look at each sector from the largest to the smallest. For most sectors, income is presented at both the sub-sector and sector level. For example, the sub-sectors federal civilian, federal military, and state and local together comprise the government sector.

## **MANUFACTURING**

Manufacturing was the largest sector in 1996 generating 21% of all income from work. Table 11 presents manufacturing sub-sector income for durable and non-durable manufacturing activities.

Table 11 reveals that durable manufacturing is the smaller of the two broad sub-sectors. Over the entire 1970-1996 period, durable manufacturing income increased. However, the more recent 1990-1996 period shows a dramatic decline in durable manufacturing income. The cause can be traced to the lumber and wood sub-sector in which income from work declined by 37.6%.

The non-durable manufacturing sub-sector provides the majority of income within the manufacturing sector of Washington County. The two principal components of this sub-sector are food and kindred processing and 'other,' which includes the paper and allied products sub-sector. Food and kindred processing activities include the preservation of fruits and vegetables and seafood processing. Income from this sub-sector increased between 1970 and 1996, and over the recent 1990-1996 sub-period.

Although conclusive data are not available, it is likely that this income growth is derived from the blueberry and fisheries/aquaculture activities in the farming sector.

Durable Sub-sectors	1970	1990	1996	% Change 1970-1996	% Change 1990-1996
Lumber and Wood	\$15,111,735	\$24,734,259	\$15,422,000	2.1%	-37.6%
Other Durable	1,043,304	3,150,005	3,893,000	273.1%	23.6%
Durable Total	\$16,155,039	\$27,884,263	\$19,315,000	19.6%	-30.7%
Non-Durable Sub-sectors					
Food and Kindred Processing	\$9,519,139	\$11,283,115	\$12,423,000	30.5%	10.1%
Printing and Publishing	477,170	746,686	636,000	33.3%	-14.8%
Petroleum and Coal Products	323,505	315,721	310,000	-4.2%	- 1.8%
Other (Includes Paper) <sup>A</sup>	41,190,294	34,226,228	38,941,000	-5.5%	13.8%
Non-Durable Total	\$51,510,108	\$46,571,809	\$52,310,000	1.6%	12.3%
TOTAL	\$67,665,147	\$74,456,073	\$71,625,000	5.9%	-3.8%

<sup>A</sup> Disclosure rules prevent BEA from separately reporting income under the paper and allied products sub-sector.

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

The 'Other' sub-sector, which includes paper and paper related production, is the largest. This sub-sector generated over 74% of the non-durable income earned and over 54% of all manufacturing income earned in 1996. It includes a variety of sub-sectors including paper and allied products, textiles and apparel, leather, and tobacco. Unfortunately, income from these activities in Washington County is not disclosed by BEA due to confidentiality reasons. However, it is very likely that most of the reported 'Other' income comes from the production of pulp and paper at the Georgia-Pacific mill in Baileyville (Woodland). Income in this sector *increased* between 1990 and 1996 suggesting that paper manufacturing is stable and growing slightly.

## SERVICES

The services sector was the second largest sector in 1996 (just ahead of government) generating 20.0% of all income from work. The services sector contains many sub-sectors. Table 12 presents the income from these sub-sectors and total sector income.

Sub-Sector	1970	1990	1996	% Change 1970-1996	% Change 1990-1996
Hotel and Lodging	Not Available	\$2,138,018	\$1,872,000	_____	-12.4%
Personal	\$2,220,054	2,659,017	2,910,000	31.1%	9.4%
Business	229,242	3,306,064	2,202,000	635.9%	-33.4%
Health	10,699,933	27,101,564	33,404,000	212.2%	23.3%
Legal	1,273,802	2,530,568	1,826,000	43.3%	-27.8%
Social	Not Available	4,038,344	7,514,000	_____	86.1%
Other	7,667,072	13,984,148	18,449,000	111.7%	35.2%
<b>TOTAL</b>	<b>\$22,160,103</b>	<b>\$55,757,723</b>	<b>\$68,177,000</b>	<b>207.7%</b>	<b>22.3%</b>

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

Both the size and the growth of the services sector are very important to Washington County's economy. Between 1970 and 1996 all services' sub-sectors grew. However, sub-sector growth was erratic between 1990 and 1996. Hotel and lodging, business services, and legal services realized decreases indicating reduced business activity. The rest of the sub-sectors increased. The strongest of these was social services. The social services sub-sector includes establishments that provide individual and family social services, job training and vocational rehabilitation, child day care, and residential care. The growth of income in this sub-sector is likely associated with the higher poverty and unemployment rates experienced by Washington County residents. ( At the state level, social services income increased 62.3% between 1990 and 1996.)

Health is the dominant sub-sector and includes businesses that furnish medical, surgical, and other health services to people. This sub-sector's income grew 23.3%

between 1990 and 1996 and added more than \$6,000,000 of income to Washington County residents. Income from the 1996 health sub-sector was larger than the income generated by five other sectors and was larger than the farming and AG/FR/FH sectors combined. Health services in Washington County (as in all Maine counties) are supported in part by the Medicare and Medicaid benefits which residents receive. These are *transfer* payments. In 1996, medical transfer payments made on behalf of Washington County residents totaled \$75,875,000 alone. These payments exclude those made by individuals themselves or by private insurance companies.

## GOVERNMENT

The government sector was the third largest in 1996 (just below services) generating 19.6% of all income from work. The government sector contains three sub-sectors. Table 13 presents income from these sub-sectors and total sector income.

Sub-Sector	1970	1990	1996	% Change 1970-1996	% Change 1990-1996
Federal Civilian	\$13,595,304	\$13,263,872	\$11,712,000	-13.9%	-11.7%
Federal, Military	7,351,655	5,822,226	5,906,000	-19.7%	1.4%
State and Local	22,370,381	52,332,813	49,209,000	120.0%	-6.0%
TOTAL	\$43,317,340	\$71,418,911	\$66,827,000	54.3%	-6.4%

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

The state and local sub-sector is larger than the health sub-sector discussed above and therefore exceeds the size of many individual sectors in Washington County. Overall, income from government increased between 1970 and 1996, driven by income growth in the state and local government sub-sector. During the more recent 1990 to 1996 period, income fell in all but the federal military sub-sector.

## RETAIL TRADE

The retail trade sector was the fourth largest in 1996 generating 11.1% of all income from work. It contains nine sub-sectors. Table 14 presents income from these sub-sectors and total sector income.

Sub-Sector	1970	1990	1996	% Change 1970-1996	% Change 1991-1996
Building Materials	\$2,070,433	\$3,571,366	\$3,552,000	70.1%	-1.4%
General Merchandise Stores	3,890,149	3,744,232	4,171,000	7.2%	11.4%
Food Stores	7,743,905	10,403,178	10,274,000	32.7%	-1.2%
Automotive Dealers, Service Stations	5,002,198	6,330,021	6,502,000	30.0%	2.7%
Apparel Stores	1,277,845	756,289	650,000	-49.1%	-14.1%
Furniture	667,229	1,278,489	881,000	32.0%	-31.1%
Eating and Drinking	2,127,046	6,513,691	5,914,000	178.0%	-9.2%
Miscellaneous	5,863,531	6,146,350	5,804,000	-1.0%	-5.6%
<b>TOTAL</b>	<b>\$28,642,336</b>	<b>\$38,743,616</b>	<b>\$37,718,000</b>	<b>31.7%</b>	<b>-2.6%</b>

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

Total retail trade income increased 31.7% between 1970 and 1996 with most sub-sectors increasing. However, total income from retail trade decreased between 1990 and 1996 due to declines in all but the general merchandise and automotive dealers' sub-sectors. The decrease, while not large, suggests that the retail sector is weakening in Washington County. The analysis of Washington County's retail sales that appears at the end of this section, suggests that Washington County residents are purchasing more retail goods outside the county.

## TRANSPORTATION

Transportation was the fifth largest sector in 1996 generating 7.0% of all income from work. Transportation contains several sub-sectors. Table 15 presents income from these sub-sectors and total sector income.

Overall, transportation income grew between 1970 and 1996. However, transportation income declined between 1990 and 1996. Both the trucking and warehousing and the "Other" sub-sectors realized dramatic growth. In 1970, both were among the smaller sub-sectors. By 1996, they were the first and third largest sectors, respectively. The railroad sub-sector declined dramatically over the 1970-1996 period reflecting the fact that businesses are increasingly moving goods by truck and not by rail.

Sub-Sector	1970	1990	1996	% Change 1970-1996	% Change 1991-1996
Railroad	\$3,756,704	\$385,347	\$476,000	-87.3%	23.5%
Trucking and Warehousing	2,693,180	10,051,444	10,622,000	294.4%	5.7%
Communication	1,556,869	2,041,981	1,809,000	16.2%	-11.4%
Electric, Gas, Sanitary	4,775,745	9,121,088	6,239,000	30.6%	-31.6%
Other	1,006,910	4,011,934	4,743,000	371.0%	18.2%
TOTAL	\$13,789,408	\$25,611,794	\$23,889,000	73.2%	-6.7%

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

## CONSTRUCTION

Construction was the sixth largest sector in 1996 generating 6.3% of all income from work. Table 16 presents total income and sub-sector income from this sector.

The construction sector is a volatile sector, regardless of geographic location. Income from this entire sector was essentially unchanged between 1970 and 1996. However, during the more recent 1990 to 1996 period, income fell sharply. Special trade construction is the largest of the three sub-sectors and realized considerable growth between 1970 and 1990. The special trade construction sub-sector includes new building construction, such as plumbing and wiring, but not frame construction which is part of the general building sub-sector. Between 1990 and 1996 income from both the special trade construction and heavy construction sub-sectors declined sharply.



Sub-Sector	1970	1990	1996	% Change 1970-1996	% Change 1990-1996
General Building and Heavy Construction	\$8,947,368	\$11,068,427	\$7,438,000	-16.9%	-32.8%
Special Trade	12,004,049	19,708,283	14,163,000	18.0%	-28.8%
TOTAL	\$20,951,417	\$30,776,711	\$21,601,000	3.1%	-29.8%

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

## FARMING

Farming was the seventh largest sector in 1996 generating 5.2% of all income from work. Table 17 presents total income for this sector.

YEAR	1970	1990	1996	% Change 1970-1996	% Change 1990-1996
TOTAL	\$5,196,000	\$23,650,000	\$17,639,000	239.5%	-25.1%

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

Farming income increased significantly between 1970 and 1996 in Washington County, making it the only county in Maine where farming income increased. During the more recent 1990 to 1996 period, however, income from the farming sector decreased. It is almost certain that the general growth in farm income can be attributed to the continued commercialization of the blueberry and aquaculture industries. Aquaculture is a growing industry and is accounted for in this sector. In Maine, the harvest of aquaculturally raised fish such as Atlantic Salmon increased from 10,000,000 pounds in 1991 to 22,100,000 pounds in 1996. The Lubec, Eastport, and Machiasport regions contain many fish growing sites and several processors.

**AGRICULTURE/FORESTRY/FISHING SERVICES (AG/FR/FH)**

The Agriculture/Forestry/Fishing Services (AG/FR/FH) sector was the eighth largest sector in 1996. It generated 3.8% of all income from work and is comprised of three sub-sectors. Table 18 presents income from these sub-sectors and total sector income.

Sub-Sector	1970	1991	1996	% Change 1970-1996	% Change 1991-1996
Agricultural Services	\$1,542,510	\$3,908,764	\$2,558,000	65.8%	-34.6%
Forestry Services	255,061	648,259	951,000	272.9%	46.7%
Fishing <sup>B</sup>	12,651,822	11,256,903	9,401,000	-25.7%	-16.5%
TOTAL	\$14,449,393	\$15,813,926	\$12,910,000	-10.7%	-18.5%

<sup>A</sup> Sub-sector income data not available for 1990

<sup>B</sup> Reported income derived from non-aquaculture, commercial marine activity

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

Agricultural and forestry services are services provided by firms to farm and forestry businesses. Examples of agricultural services include soil testing and veterinary services. Examples of forestry services include tree farms and reforestation management. Forestry services do not include tree harvesting or paper manufacturing. Fishing includes all businesses and individuals engaged in commercial fishing such as lobstering, clamming, and dragging. It does not include aquaculture (part of the farming sector), or recreational fishing.

Income for the entire AG/FR/FH sector decreased between 1970 and 1996. During the more recent 1991 to 1996 period, income decreased by 18.5%. Not surprisingly, fishing activity consistently generated most of the income in this sector. In all probability, fishing income is higher than that reported here. Many commercial fishermen and clam diggers are self-employed and do not necessarily report all of their income.<sup>5</sup>

<sup>5</sup> Based upon an interview with a Maine Department of Labor official.

## WHOLESALE TRADE

Wholesale trade was the ninth largest sector in 1996 generating 3.7% of all income from work. Table 19 presents total income from this sector.

Sub-Sector	1970	1990	1996	% Change 1970-1996	% Change 1990-1996
TOTAL	\$4,464,000	\$10,763,000	\$12,746,000	185.5%	18.4%

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

Overall, this sector's income grew considerably between 1970 and 1996 and increased 18.4% between 1990 and 1996. This increase is not entirely surprising because of the increases in the farm, food and kindred, and "other" non-durable manufacturing areas. Wholesale firms sell merchandise to manufacturers, public institutions, commercial businesses and construction firms. Wholesaling activity is generally linked to other productive activity in a region's economy.

## FINANCE, INSURANCE, REAL ESTATE (FIRE)

The Finance, Insurance and Real Estate (FIRE) sector was the second smallest in 1996 generating only 2.3% of all income from work. Table 20 presents income from its sub-sectors and total sector income.

Although FIRE is a small sector, it grew impressively between 1970 and 1996. Unlike other smaller sectors, it realized growth during the more recent 1990 to 1996 period. Local banks generate most of the income in this sector. Most of the banks in Washington County are 'locally' owned Maine-based banks.

Sub-Sector	1970	1990	1996	% Change 1970-1996	% Change 1991-1996
Depository Institutions (Banks)	Not Available	\$4,469,309	\$5,651,000	_____	26.4%
Other (Insurance, Real estate)	Not available	2,309,683	2,206,000	_____	-4.5%
<b>TOTAL</b>	\$3,142,044	\$6,678,992	\$7,857,000	150.1%	15.9%

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

## MINING

Mining was the smallest sector in 1996 generating less than 1% of all income from work. During the 1970s and early 1980s income from the mining sector rose to \$1,561,122. By 1996, however, income declined to \$73,000.

## Income Summary

Table 21 summarizes 1996 sector income from work for Washington County. Comparison counties and Maine are also included.

Table 21 reveals some differences in economic structure between Washington County and the comparison areas. For example, Washington County realized 9.0% of its income from the farming and AG/FR/FH sectors combined, while Hancock County and Penobscot County realized 4.2% and 1.0% from these sectors, respectively. Washington County realized only 2.3% of its income from the FIRE sector, while Maine realized 6.2%. Differences also exist in the services and manufacturing sector contributions. Manufacturing is a greater contributor to income in rural counties such as Washington and Piscataquis than in more urban counties such as Penobscot, while the opposite is true for the services sector. Only in the retail trade sector are contribution rates consistent. The significance of the relative size of these sectors is discussed later in the report.

SECTOR	WASHINGTON COUNTY		HANCOCK COUNTY	PENOBSCOT COUNTY	PISCATAQUIS COUNTY	MAINE
	INCOME	(% Income)	(% Income)	(% Income)	(% Income)	(% Income)
Manufacturing	\$71,625,000	21.0%	21.8%	17.9%	34.6%	18.9%
Services	68,117,000	20.0%	28.2%	26.7%	18.8%	26.8%
Government	66,827,000	19.6%	13.3%	18.2%	16.1%	16.7%
Retail Trade	37,718,000	11.1%	13.6%	12.2%	11.1%	11.8%
Transportation	23,889,000	7.0%	4.0%	9.2%	9.4%	5.8%
Construction	21,601,000	6.3%	9.2%	5.5%	5.0%	6.5%
Farming	17,669,000	5.2%	1.3%	.3%	.4%	.6%
AG/FR/FH Services	12,910,000	3.8%	3.1%	.7%	2.1%	1.1%
Wholesale Trade	12,746,000	3.7%	1.7%	5.7%	.9%	5.4%
FIRE	7,857,000	2.3%	3.6%	3.7%	1.6%	6.2%
Mining	73,000	<.01%	<.01%	<.01%	0.1%	0.0%
TOTAL	\$341,032,000	100%	100.0%	100.0%	100.0%	100.0%

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

### Using Employment to Describe Economic Sector Size and Change

In this section on Washington County, employment and employment growth are presented for each of Washington County's eleven economic sectors. The methodology is similar to that used in the preceding section. First, the contribution that each sector makes to total employment is presented. Then the growth or decline in the number of jobs is examined for each sector. The comparison years are 1970, 1990, and 1996.

Caution needs to be exercised when using employment figures to draw conclusions about Washington County's economic structure. Employment figures in the BEA data represent the average number of full-time and part-time jobs for the years shown. Each job is counted at "full weight." Thus, 100 part-time jobs in the retail sector and 100 full-time jobs in the manufacturing sector are counted the same. Despite these limitations, the employment analysis yields information about those sectors creating

employment opportunities for Washington County residents. From the individual's point of view, sector income growth matters little if that income cannot be accessed through employment.

### **Sector Contribution to Total Employment (Number of Jobs)**

Graphs 8 and 9 (at end of the report) present each sector's contribution to total Washington County employment (total number of jobs) for 1970 and 1996, respectively. Some notable changes over the period include:

In 1970, manufacturing generated 24.5% of all the jobs. In 1996, its contribution had decreased to 13.8%.

In 1970, government generated 20.3% of the jobs. In 1996, its contribution had decreased to 16.2%.

In 1970, retail trade generated 13.0% of the jobs. In 1996, its contribution had increased to 17.1%.

In 1970, services generated 15.7% of the jobs. In 1996, its contribution had increased to 22.2%.

Table 22 presents the average annual number of jobs in each of the eleven economic sectors for 1970, 1990, and 1996. The average annual number of jobs represents the sum of full-time and part-time jobs in the sector for a year divided by twelve months. The 1996 average weekly wages for Washington County and Maine in each sector are also presented.

Table 22 reveals that job growth occurred in all sectors except manufacturing (and mining) between 1970 and 1996. In total, the number of jobs increased 61.6%. All but government and FIRE had increases of 87% or better, representing an annual growth rate of about 2.5%. During the more recent 1990 to 1996 period, however, the results are more mixed. The construction, transportation, and government sectors all realized a decrease in the number of jobs. Excluding mining, AG/FR/FH experienced the largest

percentage increase. Job growth in the service sector also is noteworthy. The service sector added 433 jobs between 1990 and 1996.

Sub-Sector	1970	1990	1996	% Change 1970-1996	% Change 1990-1996	1996 Wash. Cty Average Weekly Wage	1996 Maine Average Weekly Wage
Farming	349	714	764	118.9%	7.0%	Not Avail.	Not Avail.
AG/FR/FH Services	769	1,170	1,457	89.5%	24.5%	\$321.02	\$329.59
Mining	11	4	7	-36.4%	75.0%	\$412.55	\$499.19
Construction	673	1,374	1,260	87.2%	-8.3%	\$412.55	\$499.19
Manufacturing	2,658	2,291	2,383	-10.3%	4.0%	\$512.05	\$586.16
Transportation	436	934	859	97.0%	-8.0%	\$480.29	\$560.74
Wholesale Trade	276	478	538	94.9%	12.6%	\$380.23	\$587.14
Retail Trade	1,411	2,764	3,007	113.1%	8.8%	\$220.28	\$271.62
FIRE	337	467	526	39.5%	12.6%	\$405.42	\$618.33
Services	1,703	3,471	3,904	129.2%	12.5%	\$356.64	\$422.48
Government <sup>C</sup>	2,200	2,943	2,851	29.6%	-3.1%	\$510.78 <sup>A</sup> \$365.97 <sup>B</sup>	\$556.39 \$434.20
TOTAL	10,683	16,610	17,556	61.6%	5.7%		

<sup>A</sup> State government <sup>B</sup> Local government <sup>C</sup> Federal government wages not available

**Sources:** Bureau of Economic Analysis; and Maine Department of Labor

The above figures demonstrate that the number of jobs did increase in Washington County between 1990 and 1996. Despite this, Washington County consistently has a high unemployment rate. Table 23 presents the unemployment rate for Washington County, Maine as a whole, and comparison counties for 1990, 1993, and 1996.

County/State	1990	1993	1996
Washington	7.4%	13.1%	9.5%
Hancock	4.9%	8.5%	6.6%
Penobscot	5.5%	7.6%	5.3%
Piscataquis	6.1%	9.9%	7.4%
Maine	5.1%	7.9%	5.1%

**Source:** Maine Department of Labor

One reason for Washington County's high unemployment rate may lie in the seasonal nature of employment in the farming and AG/FR/FH sectors. Table 24 presents the percent of all jobs generated by each sector for Washington County, and Maine as a whole, for 1996.

Table 24 reveals a higher proportion of employment in the farming and AG/FR/FH sectors in Washington County than in Maine. In Washington County, 12.7% of all jobs were in these two sectors compared to just 3.5% in Maine. Generally, jobs in these sectors are seasonal rather than year round. Thus, employees completing jobs in these sectors become unemployed and are likely eligible to collect unemployment compensation for a period of time until other employment can be found. Per-capita unemployment compensation payments in Washington County are about 50% higher than for Maine as a whole.

Higher unemployment in Washington County also is compounded by the absence of full-time employment opportunities. Washington County job percentages are below Maine's in the FIRE and services sectors, where full-time employment opportunities are more prevalent.



<b>Sub-Sector</b>	<b>Washington County</b>	<b>Maine</b>
Farming	4.4%	1.5%
AG/FR/FH Services	8.3%	2.0%
Mining	<.1%	0.0%
Construction	7.2%	6.5%
Manufacturing	13.6%	13.5%
Transportation	4.9%	4.0%
Wholesale Trade	3.1%	3.9%
Retail Trade	17.1%	19.0%
FIRE	3.0%	5.8%
Services	22.2%	29.8%
Government <sup>C</sup>	16.2%	14.0%
TOTAL	100.0%	100.0%

**Source:** Bureau of Economic Analysis, U.S. Dept. of Commerce

### **Part 3: Analysis of Washington County Retail Sales**

This portion of the report presents taxable retail sales by merchandise category for Washington County. Specifically, consumer retail expenditures are considered. The six consumer retail expenditure categories are: Automobile and Other Transportation, Building Supply, Food, General Merchandise, Specialty Retail, and Restaurant and Lodging. Each is described below.

Automobile and Other Transportation includes all transportation in which automobiles are dominant. Included are auto dealers, auto parts, aircraft dealers, motorboat dealers, the leasing of automobiles, etc.

Building Supply includes business durable equipment sales, contractors' sales, hardware stores and lumber yards.

Food includes the sales of taxable food items such as beer and snacks by supermarkets and small corner food stores.

General Merchandise includes sales of products generally carried in large department stores. It includes clothing, furniture, shoes, radio, TV., household durable goods like stoves, home furnishings, etc.

Specialty Retail includes a wide selection of taxable goods not covered elsewhere. Examples include drug stores, jewelry stores, sporting goods stores, antique dealers, book stores, photo supply stores, gift shops, etc.

Restaurant and Lodging includes stores selling prepared food for immediate consumption. The lodging group includes only the rentals tax.

Table 25 presents Washington County's 1990, 1996, and 1997 taxable retail sales, as well as the percent change from 1990-1996 for each of the categories listed above. The table also presents the 1990-1996 percent change for the State and comparison counties.

Retail Category	WASHINGTON COUNTY				HAN- COCK	PENOB.	PISCAT.	MAINE
	1990	1996	1997	% CNG '90-'96	% CNG '90-'96	% CNG '90-'96	% CNG '90-'96	% CNG '90-'96
Auto	\$28,183	\$28,625	\$29,910	2%	40%	43%	-4%	9%
Building	22,632	20,748	21,906	-8%	6%	11%	1%	12%
Food	29,704	32,701	32,557	10%	32%	20%	16%	25%
General Merchandise	26,747	33,506	35,581	25%	55%	18%	-13%	29%
Specialty	10,228	9,200	9,352	-10%	21%	4%	1%	21%
Restaurant and Lodging	22,160	22,001	23,299	-1%	41%	20%	12%	27%
Totals	\$139,654	\$146,781	152,605	5%	33%	22%	2%	5%

A. Not adjusted for inflation.

**Source:** Maine Department of Taxation

Table 25 reveals several weaknesses in Washington County's retail sector. Between 1990 and 1996, flat or declining sales existed in all but the food and general merchandise categories, which showed annual growth rates of 1.6% and 3.7%, respectively. Auto sales increased very modestly in Washington County, yet increased

by 43% in Penobscot County and 9% in Maine as a whole. Specialty sales decreased in Washington County but increased in all comparison areas, particularly Hancock County. The only strong retail sector in Washington County was general merchandise, which increased by 25%. In all of the categories, 1997 sales exceeded 1996 sales, except for food. Between 1996 and 1997, total taxable consumer sales increased by 4%.

The general weakness of Washington County's retail sales relative to the comparison areas can be explained using a technique called Trade Area Analysis (TAA). The technique's developer is Dr. James McConnon, Extension Business and Economics Specialist, at the University of Maine. TAA is used to analyze the strengths and weaknesses of selected retail sectors in a region. TAA is used to determine if a retail sector has a surplus or a leakage. A surplus indicates that the sector is generating a level of retail sales above what is expected for the region. A leakage indicates that the sector is generating a level of sales below what is expected for the region.

Retail categories in which surpluses exist constitute an 'export' industry for a region. A percentage of these dollars circulate within the region's economy stimulating other beneficial economic activity such as housing starts and other retail trade. Conversely, retail categories in which leakages exist indicate that local residents are 'importing' retail products. That is, they are going outside the region to acquire the retail products. This causes dollars to leave the region. Identifying county retail leakages is important because it represents an opportunity for local entrepreneurs and development officials to capture sales leaving the county.

Graph 10 (at end of report) shows the sector leakages and surpluses for Washington County. Washington County experienced leakages in four retail categories in 1990 and five in 1996. The county experienced surpluses in two retail categories in 1990 and one in 1996. For all six categories combined, Washington County experienced net leakages for both 1990 and 1996. The net leakage increased from \$13,797,708 in 1990 to \$54,360,429 in 1996, an increase of 294%. This is the largest percent increase for any county in Maine experiencing leakages in both 1990 and 1996 (The Economy of Maine Multimedia Program, 1970-1996). Two factors are likely responsible for the substantial growth in net leakage. One is the strengthening of the U.S. dollar in currency markets. This makes retail items in Washington County purchased with

Canadian dollars more expensive and reduces the draw of Canadian shoppers to retail centers such as Calais. The other is that Washington County residents are likely shopping more outside their county. Ellsworth and Bangor are the most likely destinations. Both Penobscot and Hancock Counties have retail trade surpluses.

## Summary

Any region's residents receive income from three sources: *transfer payments, dividends, interest, and rent* and *income from work*. Based on inflation adjusted income from work, the manufacturing, services, and government sectors were Washington County's three largest sectors in 1996. Manufacturing income changed little between 1970 and 1996. Most manufacturing activity lies within three principal sub-sectors, paper and allied products, lumber and wood, and food and kindred processing. Job growth in manufacturing has been trending downward but still remains significant. Average wages are highest in manufacturing.

Income in the services sector grew dramatically between 1970 and 1996 fueled by strong growth in the health, social services, and 'other' sub-sectors. This growth is not unique to Washington County as regional economies across the U.S. have become more service oriented. Paralleling the service sector's income growth has been strong job growth. Unfortunately, average wages tend to be low in the services sector. Income from the government sector lies between manufacturing and services. Its income growth exceeds manufacturing but falls short of services between 1970 and 1996. The majority of income earned in this sector comes from state and local jobs. Local government jobs pay a lower average wage than do state jobs. The number of all government jobs declined modestly between 1990 and 1996.

Washington County earns a much higher proportion of its income from work from the farming and agricultural, forestry, and fishing services sectors than most counties in Maine. This reflects its comparative advantage in select cash crops and in fisheries. Farming income has increased by more than 200% between 1970 and 1996 reflecting growth in the wild blueberry and aquaculture industries. Fishing income, however, declined during this same period. Wages in all these sub-sectors are low and the jobs are often seasonal. Farm and fishing activities have supported job and income growth

in the food and processing sub-sector. In this sector, value is added to these products in preparation for national and international export.

In Washington County, the 1996 per-capita income of Washington County residents was 22% below Maine's and even further below that in neighboring Hancock County. Among the comparison counties, only Piscataquis County residents have a lower per-capita income. Washington and Piscataquis County residents have a higher reliance on transfer payments as a source of income than the other comparison counties and Maine as a whole. In 1996, 32.7 cents of every dollar of income in Washington County came from transfer payments. For Piscataquis County, the contribution was 28.5 cents. This compares to 21.8 cents for Penobscot County, 20.3 cents for Maine, and 18.9 cents for Hancock County. For all of the regions, inflation adjusted transfer income dollars increased by 27% or more between 1990 and 1996. In Washington County, transfer income between 1990 and 1996 increased from \$147,014,000 to \$193,486,000.

One reason for the larger contribution of transfer income in Washington and Piscataquis counties has been the size of the negative growth in the other two types of income: income from work and income from dividends, interest, and rent. Table 26 shows the change in these two income types between 1990 and 1996 for Washington County, the comparison counties, and Maine.

All of the counties suffered negative growth in income from work between 1990 and 1996. Piscataquis, Washington, and Penobscot counties showed the steepest percent decline. This is part of the "northern Maine" problem. Penobscot County's decline is partially attributable to its loss in population between 1990 and 1996. However, the populations of Washington and Piscataquis counties remained essentially unchanged between 1990 and 1996 while income from work fell by 5.2% in Washington County and fell by 11.1% in Piscataquis County. A similar decline exists in dividend, interest, and rent income. Washington and Piscataquis counties realized the largest percentage decline in this type of income for all the regions. In Hancock County and Maine, this type of income increased.

County/State	1990 Income from WorkDiv/Int/Rent	1996 Income from WorkDiv/Int/Rent	Percent Change 1990-1996
Washington	\$336,156	\$318,661	-5.2%
	87,462	80,264	-8.2
Hancock	598,968	586,951	-.5
	283,720	307,933	8.5
Penobscot	1,894,651	1,810,835	-4.4
	383,257	382,104	-.3
Piscataquis	179,573	159,584	-11.1
	52,754	49,239	-6.7
Maine	16,568,150	16,028,364	-3.3
	\$4,719,157	\$4,778,179	1.3%

**Source:** Bureau of Economic Analysis

The larger decline of income from work in Washington County can likely be attributed to three factors: 1) a lower wage structure, particularly in sectors where Washington County has a comparative advantage; 2) a high unemployment level; and 3) less dividend, interest, and rent income to stimulate the local economy. If the income levels of Washington County residents are going to expand, economic development strategies need to address the issues surrounding these three factors. All three are directly or indirectly tied to the concept of a region's economic base, education, labor demand, and the concept of basic and non-basic economic activity. These topics are examined in the next and final section.

## Section III

### Analysis of Current and Possible Economic Development Strategies For Washington County, Maine

#### Introduction

In this final section, current and proposed economic development initiatives for Washington County are examined within the context of the findings in the two previous sections. This section is comprised of three parts. **Part I** presents the concept of an economic base and differentiates between basic and non-basic economic activity. This discussion is important because change in basic activity precedes change in non-basic activity within market economies. **Part II** describes ongoing or planned economic development initiatives for Washington County. The initiatives are examined in the context of the demographic and economic findings of this report and the economic base framework. Included in the discussion are insights from interviews with three individuals intimately involved with Washington County economic development issues. They are Mr. Michael Bush, Director of Community Development at the Eastern Maine Development Corporation; Mr. Edward Hennessey, President of Machias Savings Bank; and Ms. Diane Tilton, Executive Director of the Sunrise County Economic Council. **Part III** summarizes the section and the report.

#### **Part I: The Economic Base Concept And Its Relevance To Economic Development In Washington County**

The principal proposition of the economic base concept is that the rate and direction of economic growth in a region is determined by what the region exports to the rest of the world. For Washington County, the rest of the world is literally that, including Massachusetts, New York, Canada, Atlanta, Asia, and Japan.

Exports to the rest of the world include hardwood market pulp, stud lumber, urchins, salmon, frozen blueberries and other agricultural products. (The production of these products are captured under three sectors previously evaluated: *manufacturing*, *farming*, and *agricultural, forestry, and fishing services*.) Exports can also be expenditures by “non-local” and “foreign” individuals for locally provided services.

These include hotel accommodations, summer residences, retail spending by tourists, retirement communities, computer software, etc. (These expenditures fall under **some** of the sub-sectors in the *services; finance, insurance, real estate; and retail sectors* previously evaluated. )

Exports for a region generally arise out of comparative advantage. Comparative advantage means that a lower cost and/or higher level of production quality can be achieved locally rather than somewhere else. Comparative advantage also can arise out of unique geologic and cultural characteristics. Examples of the latter in Washington County include the fiber quality present in fir and spruce softwoods, naturally deep water in Eastport, breathtaking shoreline real estate, and proximity to the Roosevelt Cottage in Campobello, New Brunswick. Income and employment generated through export activity are called basic income and basic employment.

Basic economic activity is supported by a myriad of non-basic activities. Examples of non-basic activities include grocery stores, trucking and rail services for a local mill, hardware stores, restaurants, hospitals, schools, etc. Income and employment generated in these activities are called non-basic income and non-basic employment.

Non-basic activity fundamentally depends upon basic activity, not the other way around. Given that income from work in Washington County fell between 1990 and 1996, it is important that economic development strategies for Washington County primarily target those areas that are basic or export in nature. These strategies should encourage the growth of non-basic economic activity and the resulting employment and income that follows.

## **PART II: Current Economic Development Initiatives for Washington County**

This discussion examines current economic development initiatives in Washington County within the context of this report's demographic and economic findings and the basic/non-basic economic activity framework.<sup>6</sup>

---

<sup>6</sup>. The sources of the economic development initiatives are: [Investing in Washington County \(1998\)](#) prepared by the Sunrise County Economic Council, [A Rural Development Initiative for Maine, OneMaine \(1998\)](#) prepared by the Maine Department of Economic and Community Development and [The 1997](#)



The primary question addressed is: *Are the economic development efforts underway in or intended for Washington County appropriate given the demographic and economic findings of this study?*

### **Estes Head Cargo Terminal Development**

A new pier and cargo terminal are under construction in Eastport. The new facility is located on Estes Head and will replace the downtown pier. Once finished, the port will offer the greatest natural water depth in the Continental United States. Historically, the primary products shipped from Eastport are pressed pulp, logs, granite, and mobile homes (EMDC). The facility's cost is \$20,000,000 and will benefit both Washington County and all of Maine. Maine's other primary ports are located in Searsport and Portland.

This is clearly a project that will support basic activity in Washington County, particularly the shipment of wood related products which falls under the manufacturing sector. Manufacturing activity in Washington County is concentrated in three sub-sectors: paper, lumber and wood, and food and kindred processing. The port's expansion should promote the long-term viability of forest-related production and other manufacturing. It will also continue to grow the transportation sector which has realized strong growth in the trucking and warehousing sub-sector. EMDC classifies this as both a community and business development initiative.

---

Overall Economic Development Plan, prepared by the Eastern Maine Development Corporation (EMDC). The EMDC document is the most comprehensive. It presents thirty-four initiatives currently underway or proposed. The initiatives fall under the two goal categories of community development and business development. Community development goals focus on building the infrastructure on which businesses and communities function. They include developing transportation facilities, protecting natural resources (e.g. sewage treatment development), improving telecommunications, and encouraging more collaboration between various non-profit organizations. Business development goals are more business specific. They include capital formation, assisting business tied to the defense industry to convert to private markets, expanding recreational resources, training and education, and increasing value-added to forestry, fishing, and farming products.

### **Lubec Waterfront Rehabilitation**

Across the bay from Eastport is Lubec. In Lubec, a small pier/marina for recreational watercraft and commercial fishing boats was completed in 1997. The marina contains many slips each offering power and water. The facility cost at least \$1,500,000 to build. Local officials hope that the marina will offer recreational boaters a destination with the types of marina facilities to which they are accustomed. The marina appears to be benefiting the town. A new hotel/restaurant has opened very close to the marina and the once degraded appearance of downtown is improving. The waterfront's rehabilitation will support basic activity if recreational boaters can be lured further Downeast. It will primarily support the retail sector which is weak in Washington County. EMDC classifies this as a community development initiative.

### **Implementation of Cutler Area Defense Strategy**

The U.S. Navy anticipates reducing personnel at the Cutler Transmission Station in Cutler. The reductions will impact Cutler and surrounding towns. EMDC, in conjunction with the Sunrise County Economic Council, is spending \$16,000 to research possible responses to the cutback. This project addresses how to cope with the loss of a basic activity within the government sector. EMDC classifies this as a business development initiative.

### **Improved Transportation Links to the Port in Eastport**

Most, if not all, large ship cargo ports in the United States have rail service. Eastport, Maine does not. The new port facility in Eastport will not reach its capacity use unless rail service is available. EMDC and the Sunrise County Economic Council raised \$15,000 for a marketing study and convened the Eastern Maine Railroad Development Commission to coordinate its preparation. This is clearly a project that will further enhance basic activity in the manufacturing sector. It may also reverse the decline in the railroad sub-sector of the transportation sector. EMDC does not classify this initiative.

## **Machiasport Salmon Aquaculture Industry Expansion**

Aquaculture, while a small contributor to Washington County's economy, is an economic activity in which comparative advantages exist. Cold waters and protected bays offer ideal environments in which to grow salmon and other finfish. To capture the full benefit of this comparative advantage, the fish should be processed and packaged locally. Doing so creates basic employment and income for residents which, in turn, stimulates non-basic employment and income. This initiative represents a collaborative effort between both private and public agencies. EMDC projects that 30-40 jobs will be created from the expansion. This is clearly a project that will support basic activity in Washington County, particularly in the farming sector and the food and kindred processing sub-sector of the manufacturing sector. EMDC classifies the project as a business development initiative.

## **North Coast Internet Service Location**

Machias's town government was recently awarded a Community Development Block Grant to assist an Internet communications firm locate in Machias. A new building is being constructed for the firm, North Coast Internet Service, in Machias's industrial park. Fifteen jobs will be created. EMDC classifies this effort as a business development initiative. This project probably supports non-basic activity and falls within the service sector.

## **Incubator Without Walls**

Business incubators are generally physical structures in which small, often start-up businesses can affordably locate. By sharing fixed costs, networking, and accessing business expertise on site, research shows that these businesses have a better chance of surviving than if they operated in an isolated fashion. The Incubator Without Walls concept is an adaptation to the ruralness of Washington County and Hancock County. The project offers ongoing business services and technical expertise to small, micro businesses scattered throughout the counties. EMDC, in collaboration with the Women's Business Development Corporation, will spend \$400,000 on the effort.

The impact of this project is hard to predict. However, most business in Maine and Washington County are small businesses (under 500 employees) and are indigenous to Maine. Supporting small and micro-business development, particularly of the basic variety, can only help Washington County in the long run.

### **Calais Downtown Improvements**

In the planning stages is a \$1,500,000 improvement project for downtown Calais. Calais is Washington County's largest city (1990 population 3,963). Calais accounts for 30% -35% of the taxable retail sales in Washington County. Retail sales in Calais have both a basic and non-basic component. The basic component serves tourists and other individuals traveling to and/or through the region. The non-basic component serves the local population.

Improving Calais's downtown has the potential to stimulate both types of retail sales. If one or both types can be stimulated, the growth in retail sales leakages will be slowed to the benefit of Washington County. As discussed earlier, retail sales leakages increased from \$13,800,000 in 1990 to \$54,360,000 in 1996. EMDC classifies this as a community development project.

### **East-West Highway**

Receiving much attention lately has been the 'east-west' highway project. The highway would begin in Calais and traverse northern Washington and Hancock counties to Bangor. From there, the existing section of I-95 between Bangor and Newport would be used. At Newport, the highway would 'split' with one leg going west to Montreal, Quebec and the other leg southwest to Bethel and on to New Hampshire.

Richard E. Mueller, Assistant Professor of Economics and Canadian Studies at the University of Maine concludes in a recent article on the topic:

"The development of an east-west highway through Maine would undoubtedly bring economic benefits to the region. Whether these benefits outweigh the

costs is uncertain. Highways are literally and figuratively two-way streets. As such, an east-west highway would result in injections into the Maine economy, but leakages are also a probable outcome. While the development of the highway through Maine would likely be positive in terms in exports from the region to Canada, it is equally likely that imports would increase. Similarly, Maine's ports and other transportation facilities may be the beneficiaries of the transportation linkages that result from the new highway, but these same facilities could also be harmed from a new highway. The balance of tourism dollar-flows, however, would likely favor Maine because of the relatively large population centers surrounding the state."<sup>7</sup>

The economic benefits and costs of the east-west highway are currently being researched. The Maine State Planning Office has commissioned a report on this matter and it will be presented to the Maine Legislature this spring. The estimated benefits will need to be weighed against the estimated costs of constructing the highway before any decision is made regarding its construction.

### **Conversion of Guilford Industries Plant in Eastport**

In 1997, Guilford Industries closed its plant in Eastport. The closing was another blow to Eastport's struggling economy and resulted in a loss of approximately seventy jobs. The City of Eastport purchased and renovated the building creating three separate sections. One section now houses a company that manufactures clothing for the U.S. military and employs approximately seventy people. Another section houses a company that provides inputs to the manufacturer. In 1999, up to two hundred people may be employed by companies leasing the three sections of the renovated building.

This is a project that supports basic activity in Washington County, although in the much weakened apparel/textile sub-sector within manufacturing. The apparel/textile sub-sector has declined dramatically in Maine over the last twenty-five years.

---

<sup>7</sup>Mueller, Richard E. "The Importance of Maine's Economic Ties with Canada, Some Thoughts Related to the East-West Highway" *Maine Policy Review*, Fall 1998 pp. 56-69.

## Education of Community Leaders Regarding Economic Development

EMDC, in conjunction with the Sunrise County Economic Council and the University of Maine Cooperative Extension, sponsors the Washington County Leadership Institute. The purpose of the Institute is to promote regional awareness, team building, conflict resolution, and awareness of the economic development process. This Institute is important because it is growing residents' human capital and partially addressing the issue of educational attainment in Washington County. EMDC classifies this as a community development initiative.

## Washington County Welfare-to-Work Pilot Project

In December of 1996, 4.1% of all individuals receiving "welfare" (now called TANF) in Maine lived in Washington County. In 1996, only 2.9% of Maine's population lived in Washington County. Thus, Washington County has a higher concentration of TANF recipients than one would expect based on its population, but not necessarily its economy. As reported in Section I, Washington County's female-headed households are the poorest in Maine. Over 56% live in poverty.

This project is an effort to help the most capable to become economically self-sufficient by starting their own businesses. Quoting from the OneMaine document:

"In 1997, the Legislature established the Quality Employment and Business Opportunities Program to provide job development and entrepreneurial opportunities for individuals receiving benefits under the Temporary Aid to Needy Families (TANF) program. The program, which is jointly administered by the Department of Human Services and the Department of Economic and Community Development has issued a \$300,000 request for proposals for Community Action Program (CAP) or other development agencies to establish a pilot business ownership project in Washington County. The selected agency will provide a two year program to deliver counseling, support and other assistance to qualified individuals seeking to own their own businesses."<sup>8</sup>

---

<sup>8</sup> Maine Department of Community and Economic Development, A Rural Development Initiative for Maine. February 2, 1998, p. 7.

Starting a business, raising a family, and generating a level of income necessary to purchase household items and medical benefits in the private market is no small task, especially in a depressed economy. Market savvy, financial capital, and education must all be present. This program, while laudable, will probably have no measurable positive benefit on Washington County's economy. However, it has the potential to empower a number of women and their children.

### **“We’re Proud of Where We Live”**

Funded by an Annenberg Rural Grant, the “We’re Proud of Where We Live” program is a curriculum designed to teach children about the culture, history, economy, resources, and opportunities of Washington County. The curriculum is offered in each of Washington County's nine educational districts. Some projects include the Aquacenter Project in Lubec, Pride in Me (Addison, Columbia Falls, Harrington, Milbridge, and Cherryfield) and the From Past to Future: An Account of the Passamaquoddy Culture at Peter Dana Point.

This project addresses an issue that interviewees commented on. They suggested there is a cultural attitude in Washington County that encourages the most talented to leave. Coinciding with this attitude is a culture that does not always inspire pride in local history and opportunities. One of the goals of this project is to instill pride in children about where they live. Quoting from the brochure:

(The Projects)...” instill pride by letting people know that their area is rich in those things which adults have come to cherish. It is a place of opportunity, and a great place to be. And by strengthening the future generation's relationship to the area, it is a major contributor to community development.”

### **Other Initiatives**

There are several other projects and initiatives underway. Examples are outreach efforts by the University of Maine Cooperative Extension and The University of Maine at Machias, the Machias Airport Master Plan, the Eastport/Lubec Ferry Terminal, and the

FastTrac program. For more information on these initiatives, the reader should consult the citations in Footnote 1 in this section.

### **PART III: Conclusions and Other Possible Economic Development Initiatives**

There is no economic silver bullet for Washington County. As a whole, the economic development initiatives cited above appear to support traditional strengths and address the need to increase income from work. They also appear to be logical in the basic/non-basic economy framework. As is always the case, more can be done. The following observations are designed to stimulate thinking about the social and economic future of Washington County.

- A. In none of the Washington County economic development documents did we find any mention of enhancing Washington County as a retirement destination. If affluent retirees were attracted, the amount of dividend, interest, and rent income flowing into the county would likely increase, consequently stimulating other economic activity. Social Security and Medicare income dollars would also increase.

Dividend, Interest, and rent income is different from transfer income. Specifically, Medicare, Medicaid, and Food Stamp transfer income can be spent only on two types of goods (medical care and food) while dividend, interest, and rent income can circulate more broadly through the local economy.

- B. Educational attainment is an important long-term economic development issue for Washington County. This is because education and income are positively correlated. None of the economic development documents we reviewed for Washington County discussed an initiative directly responding to low educational attainment in Washington County.

As mentioned earlier, in 1990, only 16.3% of Washington County residents over 18 had an associates degree or higher, compared to 18.0% in Piscataquis County, 26.3% in Hancock County and 29.5% in Cumberland and York Counties.



In 1990, 26.8% of Washington County's residents over 18 had not completed high school and 42.2% had completed high school but not gone on to college. Educational attainment needs more attention, given the importance of human capital for job recruitment and retention in our increasingly information-oriented economy, educational attainment .

- C. With the exception of Piscataquis County, Washington County residents rely more on natural resources for their incomes than do residents in the comparison counties or in all of Maine. In 1996, manufacturing, farming, and AG/FR/FH services generated 30.0% of all income from work in Washington County, compared to 26.2% in Hancock County, 18.9% in Penobscot County, and 20.6% in Maine.

Unfortunately, the manufacturing and AG/FR/FH services sectors are mostly dominated by mature industries and are unlikely to change much. Inflation adjusted income in Washington County from paper and allied product manufacturing has changed little in twenty-six years. Income from lumber manufacturing and fishing is declining. The exception is food processing, which has shown recent and historical growth and is tied to the farming sector. The only natural resource sector exhibiting growth is farming, presumably from blueberries and aquaculture. But this sector is also under pressure. Farming income is down between 1990 and 1996 and many of the jobs are seasonal and likely do not pay well.

The relative stagnation of natural resource industries in Washington County and much of northern Maine raises two questions:

- 1) How much effort should be invested in industries that show little prospect for growth?
- 2) What is the return of scarce economic development investment dollars in these industries versus other activities?

There is no single answer to these questions. Accordingly, developing answers to both questions will require consideration of alternatives. The Department of Economic and Community Development may be addressing this issue though its

Mature and Dominant Industries Program. The program is intended to “support communities at risk due to their mature economic base.”<sup>9</sup>

Thorough discussion of development alternatives based upon an understanding of demographic, economic, and market trends will only enhance the likelihood of success. This study of Washington County, coupled with local understanding of the county, should lead to more informed debate and to strategies for Washington County’s future social and economic development.

---

<sup>9</sup> Maine Department of Community and Economic Development, A Rural Development Initiative for Maine. February 2, 1998, p. 4.

The graphs on pages 53 through 62 can be downloaded individually at the following Web Site:

[http://www.umaine.edu/mcsc/Research/EcoDev/Was\\_Cou/TitlePg.htm](http://www.umaine.edu/mcsc/Research/EcoDev/Was_Cou/TitlePg.htm).





















## REFERENCES

Eastern Maine Development Corporation. 1997 Overall Economic Development Plan, 1998.

Herbert, Richard A. Modern Maine: Its Historic Background, People, and Resources. New York: Lewis Historical Publishing Company, Inc. 1951.

Maine Department of Labor, Division of Economic Analysis and Research. Census Volume I and II Profiles of Washington County, Maine. 1990. Augusta, Maine.

Maine Rural Development Council and Department of Economic and Community Development. A Rural Development Strategy Working Paper, October, 1998. Augusta, Maine.

Maine Department of Economic and Community Development. A Rural Development Initiative for Maine: OneMaine February, 1998. Augusta, Maine.

Mueller, Richard E. "The Importance of Maine's Economic Ties with Canada: Some Thoughts Related to the East-West Highway" Maine Policy Review, Fall, 1998.

Roper, Robert K. The Economy of Maine Multimedia Program: 1969 -1996 September, 1996. Margaret Chase Smith Center for Public Policy, University of Maine

Sunrise County Economic Council. Investing in Washington County October, 1998. Machias, Maine.

Bureau of the Census. 1970, 1980, 1990. General Population Characteristics. Washington D.C.

Bureau of the Census. USA Counties 1996 CD-ROM. Washington D.C.

Department of Commerce. Regional Economic Information System: 1969 -1996 CD-ROM. Washington D.C.

Center for Business and Economic Research, University of Southern Maine, Portland, Maine.

Maine Department of Taxation. Maine Taxable Retail Sales 1990-1997.