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The Maine Labor Market: Trends and Issues 2009

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Maine Labor Market Information Services

Maine Department of Labor

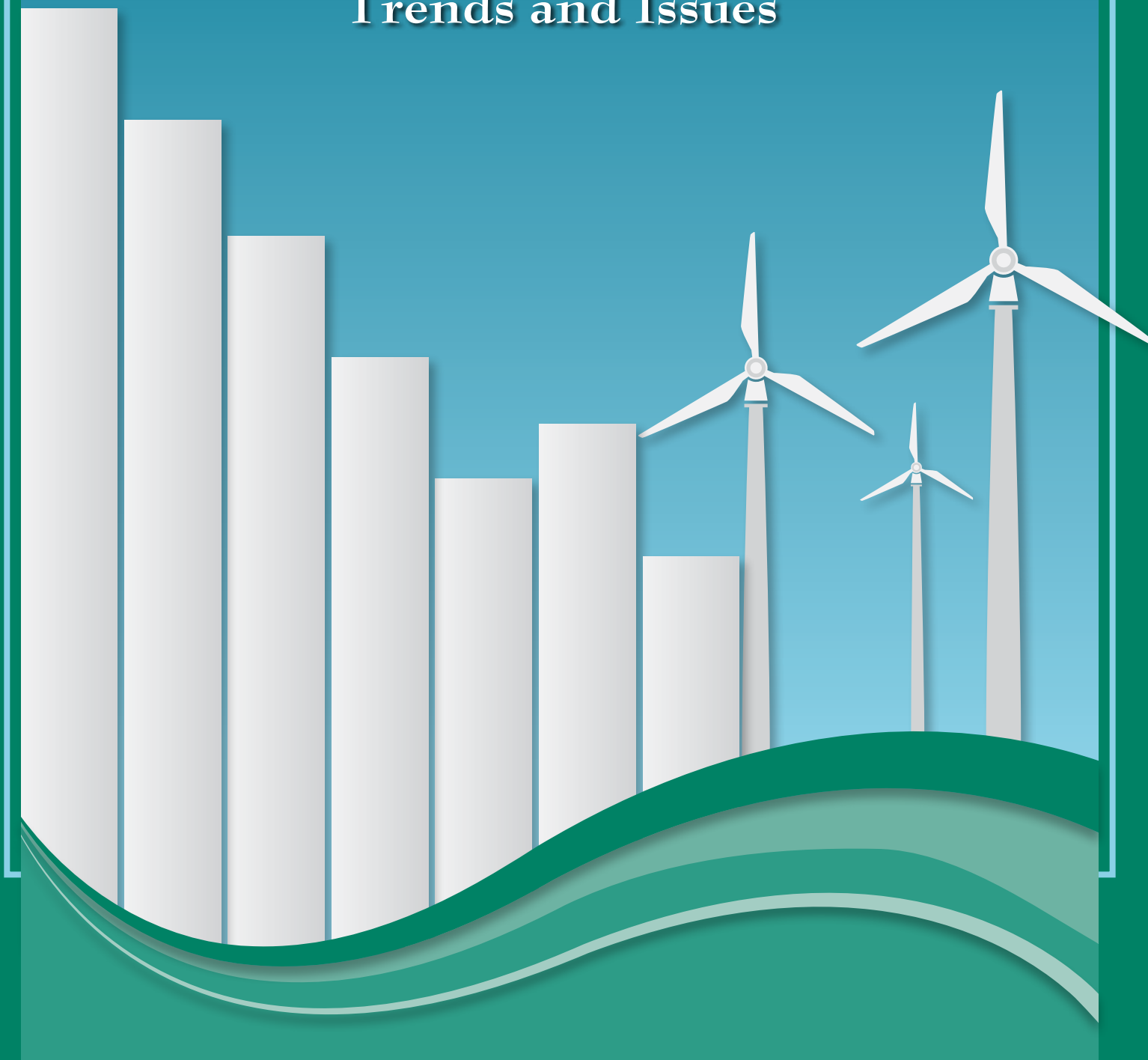
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THE MAINE LABOR MARKET: Trends and Issues



MAINE DEPARTMENT OF LABOR
CENTER FOR WORKFORCE RESEARCH AND INFORMATION



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The Maine Labor Market: Trends and Issues

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Preface

The Maine economy is undergoing constant change. The forces of foreign competition, technology innovation and business restructuring contribute to dynamic work environments and changing labor markets. Some industries are declining and shedding jobs while new industries are emerging and creating new employment opportunities. The impacts of these shifts have challenged individuals, families and entire communities. Across the spectrum of Maine workplaces, more is being demanded of workers in terms of knowledge, skills, and abilities required for job performance. Increasingly, Maine's competitiveness is determined by the quality and availability of human capital.

Maine's demographics are also in flux. An aging population and the impending retirements of baby boomers will profoundly impact our labor markets and reshape long standing patterns of demand for goods and services.

Understanding these dynamics is fundamental to making effective public policies and developing sound public and private investment strategies. Business, education and training systems and workers must consult economic, demographic and labor market information in making critical choices with limited resources. These choices will have enormous implications for Maine's prospects in the years ahead. The Maine Department of Labor, Center for Workforce Research and Information, is committed to examining the dynamics of Maine's economy and the associated impacts on the workforce and labor markets in helping to chart a more prosperous future for all Maine citizens.

John Dorrer, Director
Center for Workforce Research and Information
Maine Department of Labor

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Why This Report

This report is the result of an analysis of demographic, economic, and labor market developments unfolding in Maine. These trends will have significant consequences for policymakers, economic developers, educators, employers, workers, and Maine citizens.

The current recession has proven to be the longest-running downturn since the Great Depression. More than 25,000 jobs have been lost in Maine, and more losses are expected before employment growth returns. The economic restructuring under way for many years continued during the recession as manufacturing jobs were lost while gains were recorded in health care.

Unemployment has reached rates not seen in Maine since the early 1990s. Many jobs have gone and will not return. The set of events unfolding will require policies to facilitate re-entry into the labor market for the unemployed and preparation of the workforce for new and emerging jobs.

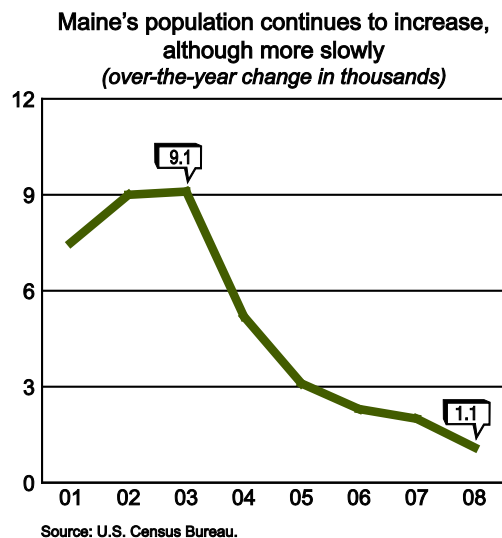
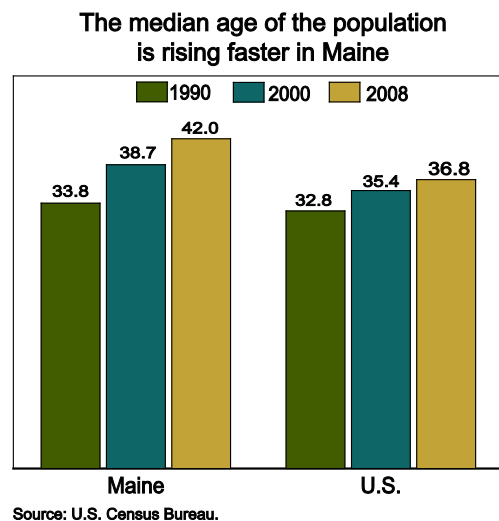
Projections of job growth in Maine are presented with caveats. With the rapid changes currently taking place and uncertainty of the timing and strength of the economic recovery, any projection must be viewed with caution. With this in mind, focus is placed on two sectors that are and will be creating jobs – health care and green activities.

Long-Term Trends in the Maine Labor Market

Pronounced demographic shifts and economic restructuring have been underway for decades. Maine's population is aging and growing slowly. The emergence of new technologies, rise and decline of industry clusters, intensification of international competition, and shifting consumption patterns has resulted in a long-term pattern of job losses for many industries and gains for others.

Population

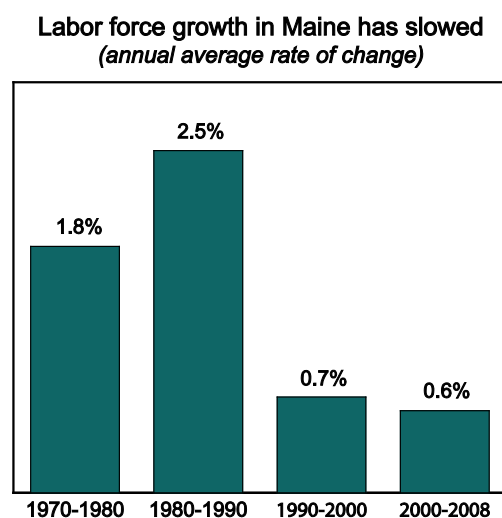
The population in Maine is growing slowly and older. With a median age of 42 in 2008, Maine ranks as the oldest of the 50 states. The annual average rate of population growth in Maine declined from 1.3 percent in the 1970s to .4 percent in the 1990s. The annual average growth rate from 2000 to 2008 matches the rate of the 1990s (.4 percent), but population growth in Maine has slowed significantly during the course of this decade, in large part likely reflecting slow job growth with attendant impact on migration patterns. While the state's population increased by an annual average of 0.7 percent between 2000 and 2003, the rate of growth slowed to 0.1 percent between 2007 and 2008, well below the national population gain of 0.9 percent.



Historically, New England has experienced slower natural population growth (births less deaths) compared to the nation as a whole, largely driven by lower birth rates. Between 2000 and 2008, all of the New England states registered a rate of natural increase below the national rate of 5.0 percent; and the Maine rate was the lowest of the New England rates at 1.0 percent. With this low rate of natural increase, population growth in Maine has become highly dependent on in-migrants. The declining rate of population growth in Maine during this decade has been due primarily to net out-migration. Preliminary data (not reconciled to revised totals) shows that, between 2000 and 2001, the Census Bureau estimated that Maine had a net domestic in-migration of 10,133; the estimate for 2007 to 2008 was a net domestic out-migration of 2,063.

Civilian Labor Force

Labor force growth is primarily driven by long-term demographic trends in the population, including birth and death rates, migration patterns, and shifts in labor force participation. Labor force growth surged from the mid 1960s to the late 1980s as the baby boom generation reached adulthood and the share of women working outside the home increased sharply. During the 1990s an aging population and peaking of female labor force participation slowed labor force growth. During the 2000s labor force growth slowed further as the Maine population continued to age and total population growth slowed.



Industry Employment

The mix of jobs by industry has changed a great deal over the last few generations. Employment in goods-producing industries (manufacturing, construction, and natural resources) accounted for nearly half of wage and salary jobs in Maine 60 years ago; today those industries account for just 14 percent of jobs. During the same period jobs in service-providing industries nearly quadrupled. Shifting buying patterns related to demographic trends, technological advances, international competition, and a wide range of other factors contributed to the substantial changes in the structure of employment. The trends that have played out in Maine have largely mirrored those of the nation and many of the industrialized economies.

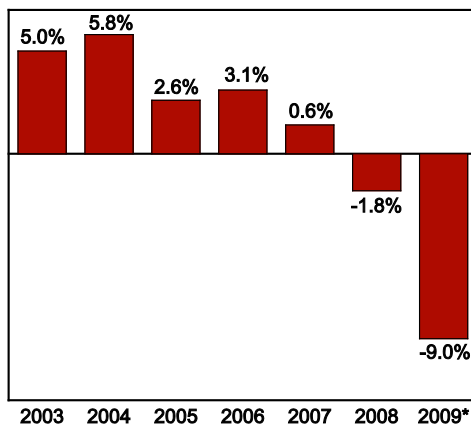
Occupational Employment

The shifting industry structure has had a profound impact on occupational employment. Growth in service-producing industries spurred demand for managerial, professional, and technical workers, while manufacturing job losses cut demand for production workers. Computers, mechanization, leaner processes, and other factors also played a role in shifting occupational staffing. Computers replaced administrative support workers in many offices as professional workers increasingly performed typing, communication, filing, and other tasks. In the last 60 years blue-collar jobs declined from more than half to less than one-quarter of jobs, administrative support jobs stagnated, and managerial, professional, and technical jobs increased from one-fifth to nearly one-third of jobs.

The Recession

The national recession began December 2007. The impact on Maine was immediate. Economic conditions in Maine have deteriorated precipitously, paralleling the national downturn. Total taxable retail sales in Maine turned negative in 2008, and recorded further declines in the first seven months of 2009.

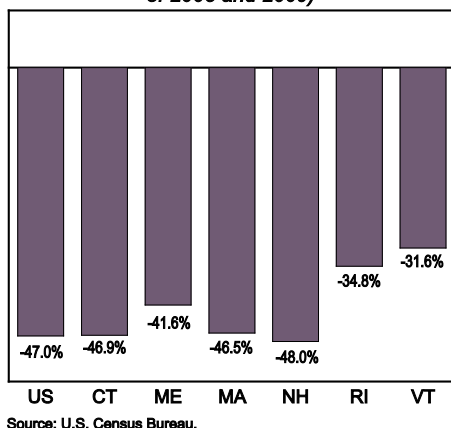
The dropoff in Maine retail sales was substantial
(percent change from previous year)



*Seven-month averages.
Source: Maine Revenue Services.

Taxable sales declines of more than nine percent between the first seven months of 2008 and the corresponding period in 2009 were recorded in building supply (-19 percent), business operating (-18 percent), auto/transportation (-13 percent), and lodging (-11 percent). Smaller losses were recorded by consumer sales (-8 percent), general merchandise (-5 percent), other retail (-2 percent), and restaurants (-2 percent). The only category to record positive growth was food stores (+1 percent).

All of the New England States have experienced a decline in housing units authorized (percent change between first six months of 2008 and 2009)



Maine home foreclosures rose significantly, although the rate of foreclosure remained well below the national rate of slightly over 1.3 percent for the second quarter of 2009. According to a study by the Federal Reserve Bank of Boston, the percentage of all home mortgages in Maine with foreclosure initiation in the quarter rose from about 0.6 percent for the second quarter of 2007 to almost 1.1 percent for the second quarter of 2009. Rising unemployment has supplemented subprime loans as a driver of foreclosures.

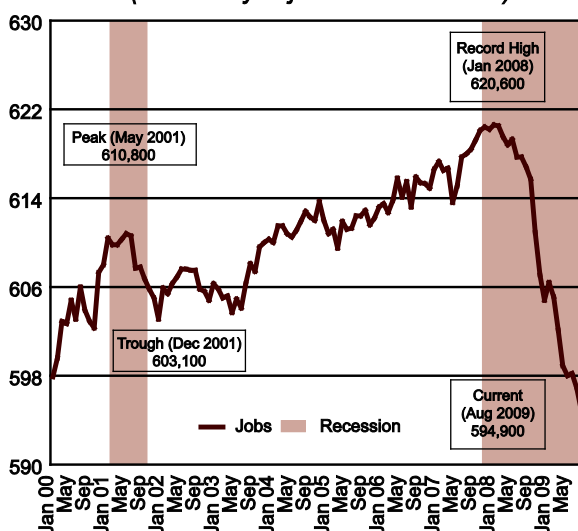
Through the first six months of 2009, 1,162 housing permits were issued in Maine, 41.6 percent less than the 1,991 approved at the same point in 2008.

Declining economic activity has severely impacted the Maine labor market. Unemployment reached rates not seen since early 1991 and the number of nonfarm jobs fell back to 1999 levels. At 20 months as of August 2009, the current national downturn is the longest since the 1930s.

Nonfarm Wage and Salary Jobs

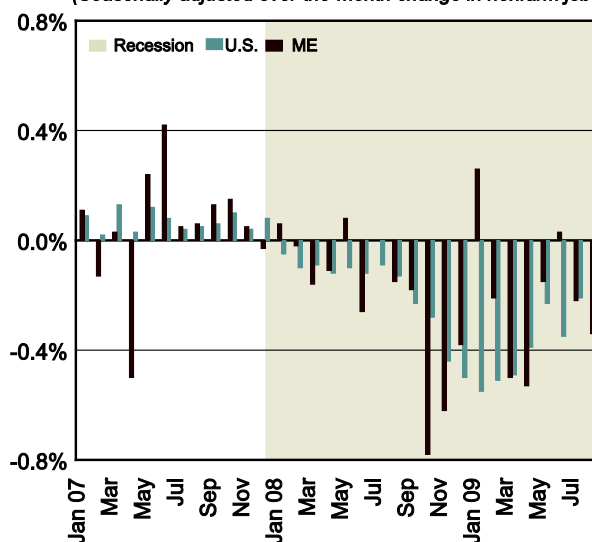
Nonfarm wage and salary jobs in Maine have fallen over the course of the recession by 25,300, or 4.1 percent. Nationally, job losses totaled 6.9 billion, or 5.0 percent. The rate of job loss in Maine spiked in the fall of 2008, continuing at a slower pace in 2009.

The current number of nonfarm jobs in Maine is below 2000 levels (seasonally adjusted in thousands)



The rate of nonfarm job loss accelerated in the fall

(Seasonally adjusted over-the-month change in nonfarm jobs)



Over the course of the recession, 14 of the 17 major industry sectors had net job losses totaling 28,300, with manufacturing (-7,200), construction (-5,700), and retail trade (-4,100) accounting for 60 percent of the net job loss. The three sectors that recorded job increases accounted for a net gain of 3,000 jobs. The primary contributor was health care and social assistance which created 2,400 net new jobs. Small gains were recorded by professional, scientific, and technical services (+300), and arts, entertainment, and recreation (+300).

With few exceptions, job changes were similar in Maine and the nation. Major losses were in manufacturing and construction; the primary gain was in health care and social assistance. In the professional, scientific, and technical services and arts, entertainment, and recreation sectors Maine jobs increased slightly while losses were recorded nationally. In private educational services, jobs declined slightly in Maine while rising nationally.

Change in nonfarm wage and salary jobs in Maine and U.S. since the beginning of the recession in December 2007 (seasonally adjusted in thousands)

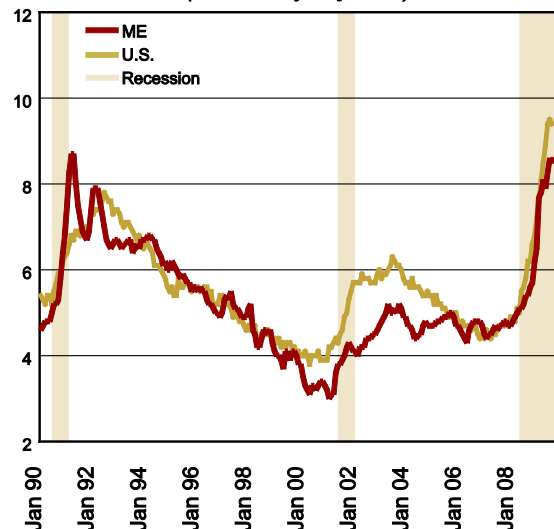
	Employment		Dec 07 to Aug 09 Change		
	Dec 2007	Aug 2009	Maine Net	Percent	
				Maine	U.S.
Nonfarm Wage and Salary Jobs	620.2	594.9	-25.3	-4.1	-5.0
Natural Resources & Mining	2.6	2.2	-0.4	-16.9	-4.8
Construction	30.8	25.1	-5.7	-18.5	-19.0
Manufacturing	59.6	52.4	-7.2	-12.1	-14.6
Wholesale Trade	21.0	19.7	-1.3	-6.2	-6.6
Retail Trade	86.1	82.0	-4.1	-4.8	-5.3
Transportation, Warehousing and Utilities	19.1	16.3	-2.8	-14.7	-6.9
Information	11.1	10.3	-0.8	-7.2	-6.7
Finance & Insurance	25.7	25.1	-0.6	-2.3	-5.8
Real Estate, Rental, Leasing	7.1	6.6	-0.5	-7.0	-8.4
Professional, Scientific and Technical Svcs.	23.9	24.2	.3	1.3	-2.9
Administrative Support and Waste Mgmt.	24.8	24.4	-0.4	-1.6	-14.3
Educational Services	19.6	19.4	-0.2	-1.0	3.5
Health Care & Social Assistance	97.4	99.8	2.4	2.5	4.1
Arts, Entertainment and Recreation	8.2	8.5	0.3	3.7	-5.3
Accommodation and Food Services	52.2	50.0	-2.2	-4.2	-2.5
Other Services	19.9	19.3	-0.6	-3.0	-1.8
Government	104.4	102.9	-1.5	-1.4	0.5

Unemployment and the Civilian Labor Force

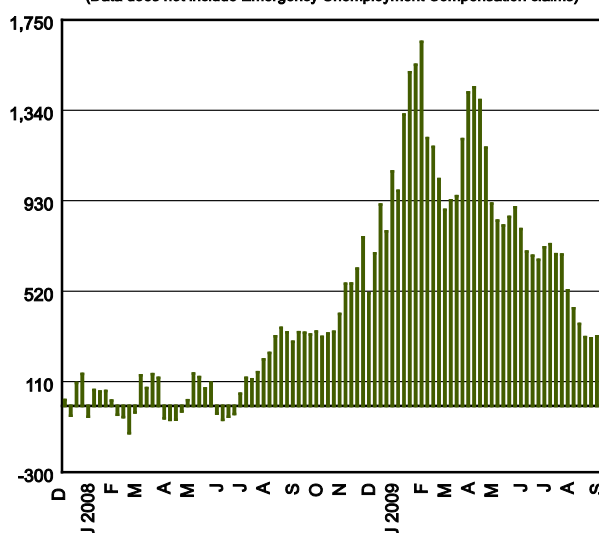
As job losses mounted, the unemployment rate rose. Rates rose gradually through 2007, but remained below 5.0 percent until March 2008. Escalating energy costs that spring and summer caused consumers to retrench, dampening the important tourist season, resulting in a moderate acceleration in the rise in unemployment to 5.4 percent for July. As the extent of the national financial crisis became more apparent in the fall, unemployment started to rise more rapidly, with the rate reaching 8.6 percent in August 2009, the highest since April 1991.

Insured Unemployed—The number of insured unemployed under the regular program rose dramatically over the past year. Both initial and continued claims filed for unemployment under the Maine Regular Unemployment Insurance Program (four-week moving average) began rising significantly in mid-2008, with the over-the-year rate of increase peaking in early 2009.

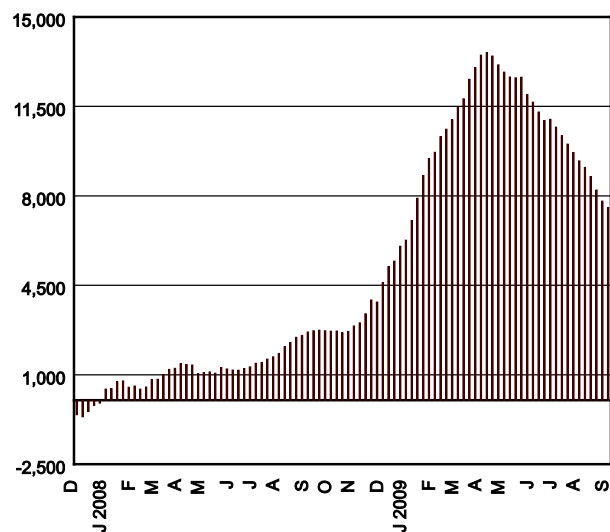
Unemployment rates have risen to levels last reached in the early 1990s (seasonally adjusted)



Over-the-year change in initial claims for unemployment compensation in Maine based on four-week moving averages (Data does not include Emergency Unemployment Compensation claims)



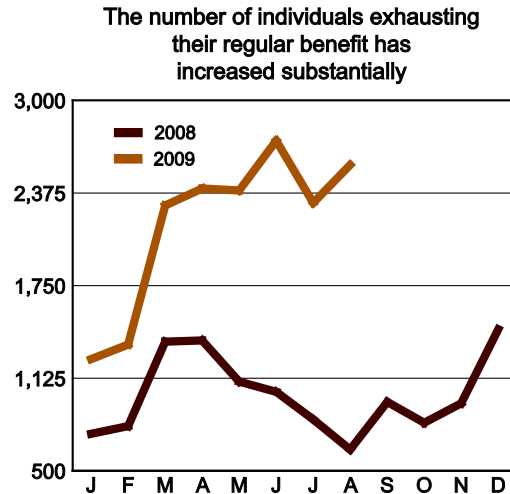
Over-the-year change in continued claims for unemployment compensation in Maine based on four-week moving averages (Data does not include Emergency Unemployment Compensation claims)



As the pace of job loss slowed in 2009, the number of initial claims increased over the year at a diminishing rate. The slowdown in the growth rate of the number of continued claims was due to (1) relatively fewer initial claims being filed, and (2) an increase in the number of

continued claimants exhausting their benefit. As the recession has lengthened, there has been an increase in the number of claimants unable to find work before their Regular Program benefit ran out. The number of benefit exhaustees increased by 204 percent between August 2008 and August 2009.

Maine residents receiving a regular unemployment insurance benefit in July 2009 numbered 21,883, an increase of 87.7 percent over the level of 11,667 for July 2008. While there was an increase in workers separated from all major industries with the exception of utilities, a large proportion of the increase in the number of workers receiving a benefit (34 percent) was accounted for by separation from manufacturing industries. Workers separated from the construction and retail trade industries also contributed substantially to the increase in the number receiving benefits.



Number of Maine Residents Receiving a Regular Unemployment Insurance Benefit

Sector Industry	July		Change	
	2008	2009	Net	Percent
Total	11,657	21,883	10,226	87.7%
Agriculture, Forestry, Fishing, Hunting	309	673	364	117.8%
Mining	5	11	6	120.0%
Manufacturing	1,754	5,272	3,518	200.6%
Construction	1,439	2,959	1,520	105.6%
Wholesale Trade	414	881	467	112.8%
Retail Trade	1,401	2,443	1,042	74.4%
Transportation and Warehousing	565	926	361	63.9%
Utilities	148	62	-86	-58.1%
Information	180	330	150	83.3%
Finance and Insurance	270	415	145	53.7%
Real Estate, Rental, and Leasing	112	193	81	72.3%
Professional, Scientific, and Technical Services	509	1,026	517	101.6%
Management of Companies	18	53	35	194.4%
Administration, Support, and Waste Mgt. Services	807	1,297	490	60.7%
Educational Services	311	401	90	28.9%
Healthcare and Social Assistance	1,256	1,566	310	24.7%
Accommodation and Food Services	672	952	280	41.7%
Arts, Entertainment, and Recreation	200	397	197	98.5%
Other Services	411	617	206	50.1%
Government	174	259	85	48.9%
INA	702	1,150	448	63.8%

As might be expected, workers separated from production and construction occupations accounted for the largest gains in the number of insured unemployed between July 2008 and July 2009. Workers separated from office and administrative support occupations also recorded a large increase. This occupation is found in many industries, most of which registered job losses.

Number of Maine Residents Receiving a Regular Unemployment Insurance Benefit

Occupational Group	July		Change	
	2008	2009	Net	Percent
Total	11,667	21,883	10,216	87.6%
Management	619	1439	820	132.5%
Business and Financial Operations	212	464	252	118.9%
Computer and Mathematical	107	253	146	136.4%
Architecture and Engineering	125	430	305	244.0%
Life, Physical, and Social Sciences	64	121	57	89.1%
Community and Social Services	208	256	48	23.1%
Legal	37	58	21	56.8%
Education, Training, and Library	428	462	34	7.9%
Arts, Design, Entertainment, Sports, & Media	151	314	163	107.9%
Healthcare Practitioners and Technical	175	296	121	69.1%
Healthcare Support	227	289	62	27.3%
Protective Services	65	132	67	103.1%
Food Preparation and Serving Related	608	900	292	48.0%
Building and Grounds Cleaning & Maintenance	226	385	159	70.4%
Personal Care and Services	245	343	98	40.0%
Sales and Related	886	1,335	449	50.7%
Office and Administrative Support	1,624	2,800	1,176	72.4%
Farming, Fishing, and Forestry	265	609	344	129.8%
Construction and Extraction	1,480	2,816	1,336	90.3%
Installation, Maintenance, and Repair	561	1,100	539	96.1%
Production	1,697	3,837	2,140	126.1%
Transportation and Material Moving	914	1,788	874	95.6%
Military Specific	48	46	-2	-4.2%
INA	695	1,410	715	102.9%

About 70 percent of the increase in the number of workers receiving benefits was male; 66 percent had a high school education or less. These numbers were driven in part by job losses in manufacturing and construction – industries that traditionally have employed a high proportion of males and offered good jobs to workers with less education. There was an above-average rate of increase (133.2 percent) of benefit recipients with over 16 years of education. This is likely tied to a significant rate of increase of workers separating from several professional and technical occupations.

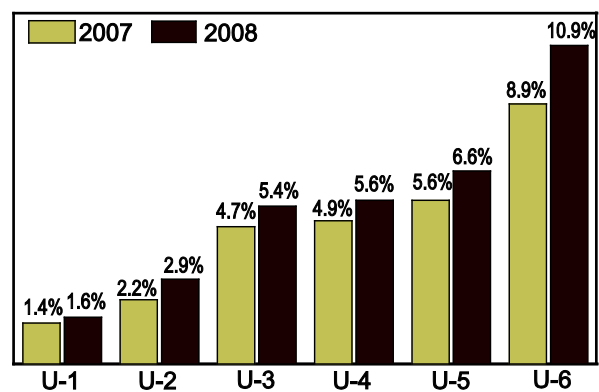
Number of Maine Residents Receiving a Regular Unemployment Insurance Benefit

Total	July		Change	
	2008	2009	Net	Percent
	11,657	21,883	10,226	87.7%
Gender				
Female	5,140	8,196	3,056	59.5%
Male	6,517	13,687	7,170	110.0%
Age				
Less than 22	180	626	446	247.8%
22-24	559	1,133	574	102.7%
25-34	2,246	4,362	2,116	94.2%
35-44	2,682	5,111	2,429	90.6%
45-54	3,274	6,106	2,832	86.5%
55-59	1,285	2,314	1,029	80.1%
60-64	970	1,529	559	57.6%
65+	457	702	245	53.6%
INA	4		-4	-100.0%
Years of Education				
Less than 12	1,203	2,390	1,187	98.7%
12	5,599	10,549	4,950	88.4%
13-15	2,156	3,951	1,795	83.3%
16	965	1,775	810	83.9%
Over 16	452	1,054	602	133.2%
INA	1,282	2,164	882	68.8%

Measures of Economic Hardship—While the unemployment rate remains the primary measure of changes in labor underutilization, alternative measures of labor underutilization indicate the depth of economic hardship in the state. These measures of labor underutilization rose in tandem with the unemployment rate between 2007 and 2008.

The rapid deterioration of the Maine labor market starting in the fourth quarter of 2008 is measured by the rising rates of labor underutilization for 2009. As seen in the following table, all of the measures increased substantially between 2008 and 2009. The most substantial measure, U-6, rose from 10.7 percent for 2008 to 15.4 percent for 2009.

Annual average labor underutilization rates for Maine rose between 2007 and 2008 as economic conditions worsened



Source: U.S. Bureau of Labor Statistics.

Measures of Labor Utilization for Maine

Measures		Eight-month Ave.	
		2008	2009
U-1	Persons unemployed 15 weeks or longer, as a percent of the civilian labor force	1.6%	4.0%
U-2	Job losers and persons who completed temporary jobs, as a percent of the civilian labor force	2.8%	5.2%
U-3	Total unemployed persons, as a percent of the civilian labor force (the unemployment rate)	5.0%	8.5%
U-4	Total unemployed persons, plus discouraged workers, as a percent to the civilian labor force plus discouraged workers	5.2%	8.9%
U-5	Total unemployed persons, plus discouraged workers, plus all other “marginally attached” workers, as a percent to the civilian labor force plus discouraged workers	6.3%	9.9%
U-6	Total unemployed persons, plus all other “marginally attached” workers, plus all persons employed part time for economic reasons, as a percent of the civilian labor force plus all “marginally attached” workers	10.7%	15.4%

Source: Unpublished data from the Current Population Survey.

Declining Civilian Labor Force—After slowly growing through 2008, the number of Maine residents participating in the labor force declined by an average of 2,200 between the first eight months of 2008 and the comparable period for 2009, probably due to a combination of unemployed ceasing to look for work (discouraged workers) and individuals deferring entry to a poor labor market to go to school or follow some other pursuit. As indicated by the rising rate of underutilization (U-4), there has been an increase in the number of discouraged workers as the national recession lengthened. The Maine unemployment rate in 2009 likely would have been higher if not for the declining labor force.

Where the Jobs Are

During this decade jobs have become more centralized in Maine. Between 2000 and 2007, the number of nonfarm wage and salary jobs rose 18,400 in the three metropolitan areas (net job gain of 12,900 in the Portland-South Portland-Biddeford area). Jobs in non-metropolitan (rest of the state) areas fell 4,200. During this time frame, the number of jobs in manufacturing continued to decline, with many of those losses occurring in rural Maine. At the same time, jobs increased in most of the other industry sectors, with the lion’s share of the job gains in many of the services industries going to the metropolitan areas.

With the onset of the recession, job losses were more widespread as manufacturing firms cut back or closed, construction activity slowed, and the number of service-related jobs (with the exception of health care) fell. As a result, the rate of job loss in the metropolitan and non-metropolitan areas did not differ radically in 2008 and 2009. All areas recorded no or slight

job losses during 2008. Between the first six months of 2008 and the corresponding period in 2009, the Portland-South Portland-Biddeford area lost 4,700 jobs, followed by Lewiston-Auburn with a loss of 1,700 jobs and Bangor with a decline of 1,400 jobs. Jobs in non-metropolitan areas declined 10,700.

As a result of the growth disparities during this decade, the share of nonfarm wage and salary jobs located in metropolitan areas has risen from 48 percent in 2000 to 52 percent in 2009.

**The recession has impacted both metropolitan and non-metropolitan areas
(percent change in nonfarm wage and salary jobs)**

	2000- 2007	2007- 2008	2008- 2009*
Maine	2.4%	-0.3%	-3.0%
Metropolitan Areas			
Portland-South Portland-Biddeford	7.1%	-0.4%	-2.4%
Lewiston-Auburn	3.4%	-0.6%	-3.5%
Bangor	6.3%	0.0%	-2.1%
Non-Metropolitan	-1.4%	-0.2%	-3.5%

*Six-month averages.

Economic Recovery

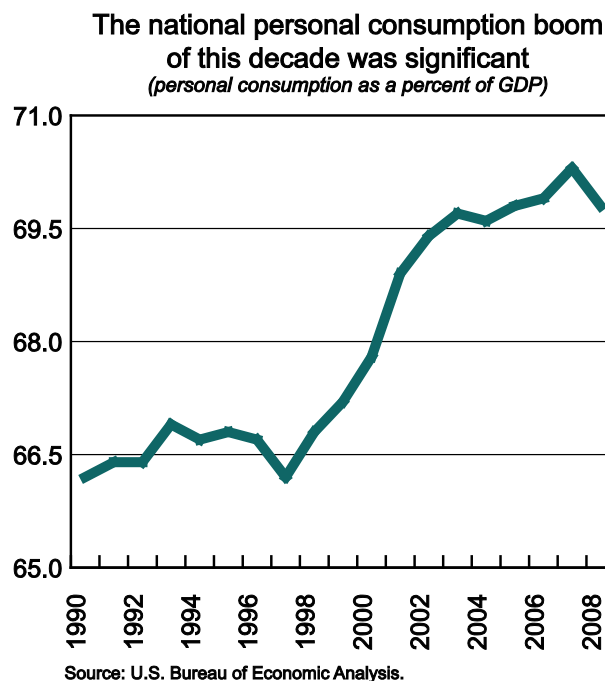
While some signs of economic recovery have started to appear as of this review, there are still monthly net job losses nationally and in Maine. Most economists expect more job losses before the economy reaches bottom and employment growth returns. Various forecasts are predicting that the recession will bottom out late 2009 nationally and in Maine. However, labor market recovery is not expected until mid-2010 as employers hold off hiring until the recovery is demonstrably underway. The latest forecast from the Maine Consensus Economic Forecasting Commission indicates that employment in Maine is expected to drop through the second quarter of 2010. Recovery is expected to begin in late 2010, with a return to job growth.

Among the factors should help alleviate the downturn is fiscal stimulus from the American Recovery and Reinvestment Act (ARRA), Funds provided by the ARRA are increasing demand for workers in many occupations. The emphasis on creating a framework for clean, efficient, alternative forms of energy and energy conservation will provide jobs for engineers; installation, maintenance and repair workers; and other workers with weatherization skills. Funds directed to modernizing roads and bridges will stimulate the demand for supervisors and engineers, equipment operators, and laborers. Assistance provided to schools and law enforcement agencies will enhance the need for teachers and law enforcement personnel. Healthcare information systems and technology will be upgraded with the associated increase in demand for medical records and health information technicians.

During the recession, many businesses curtailed production in the face of reduced demand. This leads eventually to depleted inventories and a need for these businesses to increase

production to restore stocks. As economic conditions improve, there should be a rise in inventory investment. Consumers have deferred many purchases since the recession began. This pent-up demand will likely be reflected in elevated consumption as consumers buy some of the cars, appliances, and other goods they had put off buying since the recession began.

While these factors will eventually move the Maine economy forward, the growth path is unlikely to be what was envisioned before the recession. Much of the growth in the national gross domestic product (GDP) during the last ten years was driven by rising personal consumption. This increase was funded in large part by equity extraction. Consumer spending will likely not be the economic engine it was pre-recession, due in large part to the loss of home equity and constrained credit. Gallup polls conducted in July indicate that 32 percent of Americans are reporting that their recently depressed spending habits will become a "new normal" in the years ahead.



Employment Projections, 2006-2016

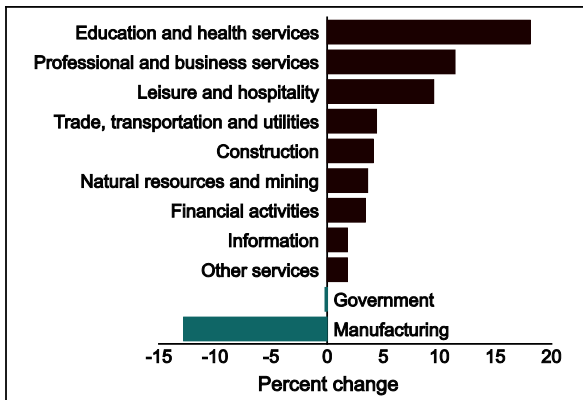
With the uncertainty surrounding the timing and strength of the economic recovery and the rapid changes taking place in the workplace, projections of future job change must be viewed with caution. Whenever technological innovation, new market developments, and public policy initiatives combine and transform the employment landscape, formidable challenges confront those charged with producing official employment estimates and projections. The traditional industrial and occupational employment projections are developed to provide the basis for educational and training programs that prepare students to meet demands of the future job market and guide jobseekers making a career choice. However these projections must be viewed as a base from which to operate, and should be analyzed and amended with current information. Employment projections for 2006 to 2016 are presented below with these caveats in mind.

The most comprehensive projections available for Maine are developed by the Maine Department of Labor, with estimates of job growth by industry and occupation. The current set of projections focuses on the ten-year period between 2006 and 2016.

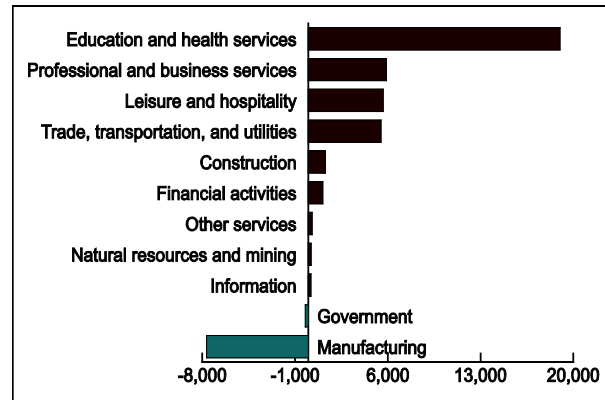
Employment by Industry

The outlook for the 2006 to 2016 period is for a continuation of trends that have been on-going for some time. Employment is expected to record a net increase of about 34,000, or 5.0 percent, with wage and salary job growth (31,000) almost exclusively among service-providing industries (Table 1 in appendix). Education and health services is expected to account for over half of the net increase in wage and salary jobs. The manufacturing sector is expected to continue to lose jobs.

The education and health services, professional and business services, and leisure and hospitality sectors are projected to grow more than twice as fast as the average of 5.0 percent for all jobs
(Expected rate of job growth between 2006 and 2016)



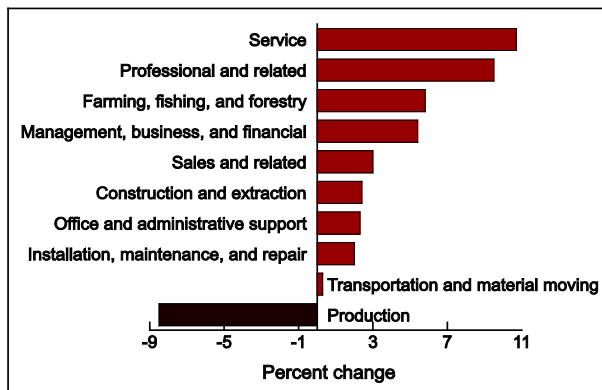
Much of the job growth will be accounted for by education and health services
(Expected change of number of jobs between 2006 and 2016)



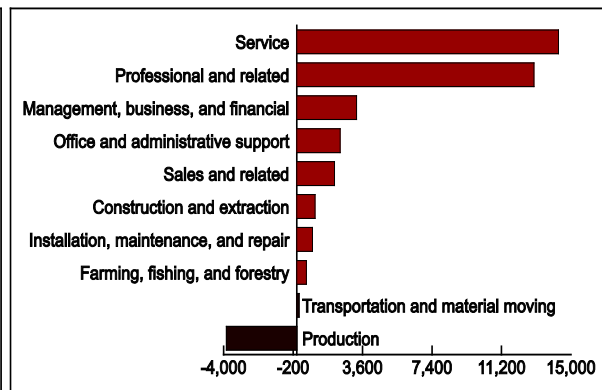
Employment by Occupation

The occupational structure of employment will shift along with changes in the industrial structure and technology (Table 2 in appendix). Healthcare practitioners and support, social services, computers and mathematics, and personal services jobs are expected to grow at more than twice the rate for all occupations. These occupations will account for more than half of the net gain in jobs between 2006 and 2016. Production jobs are expected to decline as a result of continued losses in manufacturing.

The highest rates of growth are expected in service and professional occupations
(Expected rate of job growth between 2006 and 2016)



Professional and service occupations are expected to account for most of the job growth
(Expected change of number of jobs between 2006 and 2016)



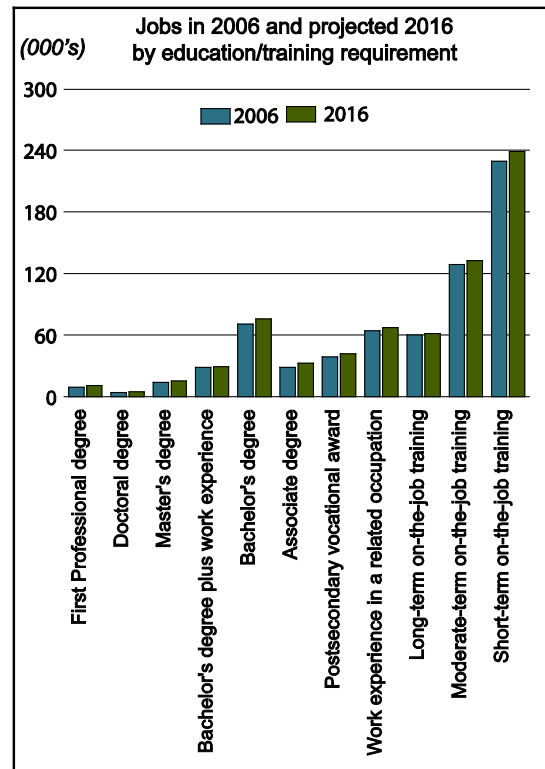
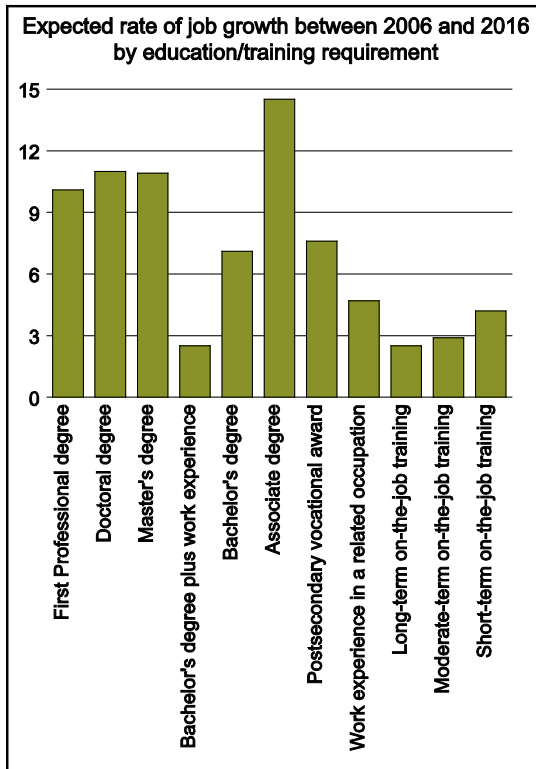
Twenty-three of the forty fastest growing individual occupations (Table 3 in appendix) between 2006 and 2016 are health related. This growth in health-related occupations is largely due to an increased use of specialized services and growth in the number of middle age and elderly people. Network systems and data communications analysts are expected to grow the fastest among the computer-related jobs. The technical skills needed for companies to remain competitive and the increased use of the Internet are reflected in a growth rate of 47 percent for this occupation.

When considering the future demand for occupations, projected net growth is as important as the growth rate (table 4 in appendix). Occupations with lower growth rates but high employment levels may account for a substantial number of jobs. The list of the top forty occupations expected to add the most jobs is more diverse than the list of the fastest growing, reflecting the broad base of the Maine economy. Among the top ten occupations are customer services representatives, waiters and waitresses, retail salespersons, and office clerks – occupations that are not among the fastest growing but with a large employment base.

Job openings arise from two sources: growth and replacement. Between 2006 and 2016, an average of 19,400 job openings is expected each year; about 4,600 due to growth and 14,800 due to replacement needs. Replacement needs arise as workers leave occupations. Some transfer to other occupations, while others retire, return to school, or quit to assume household responsibilities. In general, occupations with high employment levels also have a large number of openings due to replacement demand. As a result, cashiers, waiters and waitresses, retail sales persons, who are not among the fastest growing occupations, are the three occupations with the largest number of job openings between 2006 and 2016 (Table 5 in appendix). Registered nurses, which provides the fourth largest number of job openings, is among the fastest growing occupations, has a large employment base, and is expected to provide the highest level of net growth.

As the mix of jobs increasingly shifts toward managerial, professional, and technical occupations, the education and training requirements of the labor force are rising because those occupations generally require some form of post-secondary education or training (Table 6 in appendix). The number of jobs in occupations requiring post-secondary education or training is expected to rise by 8.1 percent, while the number not requiring education beyond high school is expected to rise by 3.7 percent. Despite the slower-than-average growth in occupations at the lower end of the education/training spectrum, there will still be many more jobs that do not require post-secondary education than those that do. In 2006, 71 percent of jobs were in occupations that generally do not require post-secondary education. In 2016, jobs in those occupations are expected to make up 70 percent of the total.

The fastest job growth is expected in occupations at the upper end of the education/training spectrum, but there will continue to be many more jobs in occupations at the lower end of the spectrum



High Wage, In-Demand Jobs

A priority was articulated in Maine's Workforce Investment Act Strategic Plan of "...helping workers acquire the skills and supports they need to obtain jobs that pay livable wages so that they can achieve economic security." Although not addressing the issue of livable wages, the criteria listed below pinpoint those jobs for which there is a demand and pay wages above the statewide median.

Occupations that pay the statewide median wage or above and have projected job openings of 20 or more a year are expected to account for 34 percent of total annual openings for all occupations. There were 120 occupations which qualified as high-wage and in demand (Table 7 in appendix). Over 20 percent of the high-wage, in-demand occupational openings are in five occupations: registered nurses, general and operations managers, truck drivers, first-line supervisors of retail sales workers, and wholesale and manufacturing sales representatives.

Average Annual Job Openings Expected in Maine, 2006-2016

Education or Training Requirement	Total Annual Openings For All Occupations	High-Wage In-Demand Annual Openings	Percent of Openings That Are High-Wage In Demand
Total, All Levels of Education or Training	19,404	6,602	34.0%
Bachelor's Degree or Higher	3,591	2,529	70.4%
Post-Secondary Beyond High School, but Less Than a Bachelor's Degree	2,556	1,128	44.1%
High School Diploma or Less	12,299	2,945	23.9%

A Closer Look at Two Areas of Employment Growth

Of interest to jobseekers, educators, and the workforce development profession are industries/occupations that are growing and important to the local economy. Two sources of near-term and future job growth in Maine are health care and green activities.

Practical, Imperfect Methods for Counting “Green” Jobs

There is much speculation these days about job creation associated with the emergent green economy. Billions of new public and private investments are making our households, businesses, and industry more energy efficient. Renewable energy coming from a combination of wind power, bio fuels, solar, and the oceans is projected to become an increasing share of the world’s energy sources. Environmental clean up and protection are fundamental to survival and are being held up as potential source of future job growth.

Advocacy groups, business and trade associations, and government agencies together have published countless studies and reports mostly speculating on the shape and quantity of jobs that will be created in the new green economy. Speculation and enthusiasm, however, are not sufficient for guiding critical education and training investment decisions needed to supply future workforce needs.

Traditional employment estimates and occupational projections are grounded in historical patterns, making it difficult to incorporate technological innovation, recent market developments, and the impacts of public policies. The failure to effectively capture employment trends and developments could result in preparing either too few or too many workers to meet the needs of rapidly evolving sectors of the economy. While efforts are underway at the U.S. Department of Labor to identify green industries and occupations within traditional industry and occupational coding systems, it will take some time before these bear fruit. As an interim measure, we must pursue alternative methods for estimating employment developments in the green economy.

Currently, the Maine Department of Labor is approaching counting green jobs from several different perspectives.

By Industry-The Center for Workforce Research and Information made an initial attempt develop a working definition of green jobs and green industries and a strategy for counting them, which was published in "Maine's Green Economy: An Overview of Renewable Energy and Energy Efficiency sectors." The industry profile employed by Global Insight Inc. in their 2008 report for the United State Conference of Mayors and the Mayors Climate Protection Center entitled "Current and Potential Green Jobs in the U.S. Economy" for measuring Maine's green jobs was used.

Global Insight defined green jobs as any activity that generates electricity using renewable or nuclear fuels, agriculture jobs supplying corn or soy for transportation fuel, manufacturing jobs producing goods used in renewable power generation, equipment dealers and wholesalers specializing in renewable energy or energy-efficiency products, construction and installation of energy and pollution management systems, government administration of environmental programs, and supporting jobs in the engineering, legal, research and consulting fields. This definition focuses more narrowly than some others on energy efficiency and renewable energy activities.

Using Global Insight's industry breakdown as a starting point, the industry list was modified based on Maine's mix of economic activity. The result is a list of 73 6-digit North American Industry Classification System (NAICS) codes from 11 industry sectors (table 8 in appendix), representing average employment of 45,817 workers in 2008, approximately 8 percent of wage and salary jobs in Maine.

This industry approach to measuring green jobs by identifying and tracking whole industries has significant weaknesses. First, it assumes the validity of the concept of a green industry, when we know, for example, that not all firms in the building construction industry build energy efficient buildings. Also, green jobs are not confined to firms working in green industries. Unfortunately, green business activities do not conform well to existing industry classifications based on NAICS codes.

By Firm-An alternative strategy for counting green jobs, or at least for tracking trends in green jobs, is to develop a data set of employers doing green work. In the absence of an employer survey, a list of potential green firms was developed using membership organization lists, participant lists from green job training programs, and input from industry experts. Membership organizations include the Maine Chapter of the U.S. Green Building Council and the Environmental and Energy Technology Council of Maine. Efficiency Maine, a program administered by the Maine Public Utilities Commission, maintains lists of energy auditor trainees and certified solar installers; where trainees indicated a firm affiliation, that firm was added to the list of potential green firms.

Each potential green firm was then checked against the database containing all employers subject to the Maine Employment Security Law (Quarterly Census of Employment and Wages, or QCEW). Those that appeared in the QCEW database were included on the list of green employers.

This strategy also has its weaknesses. First, it assumes the existence of a green firm; in reality, it is likely that many firms do a mix of green and non-green work. Next, the list is neither exhaustive nor statistically representative of the range of firms engaged in green activities. Membership in a green organization does not guarantee that any significant portion of a firm's work is green. Nor does an individual's participation in green job training necessarily indicate a firm's work is green.

However, by documenting membership in a green organization or by seeking green job training, a list of firms is constructed that is likely to respond to a growing market demand for green goods and services. By tracking these firms, a number is attached to the term green jobs. The current list has 593 firms with average employment of 16,588 for 2008.

**Green Establishments by Industry in Maine
Annual Average 2008**

Industry	Number	Employment
Private	582	16,286
Construction	183	3,543
Manufacturing	52	3,489
Wholesale	37	682
Retail	76	1,735
Transportation and Warehousing	9	208
Utilities	40	1,429
Information	2	*
Financial Services	2	*
Real Estate, Rental & Leasing	9	130
Professional, Scientific & Technical Services	118	2,821
Management of Companies	6	916
Administrative and Support Services	19	322
Education Services	1	*
Health Care & Social Assistance	10	351
Leisure & Hospitality	1	*
Other Services	15	300
Government	11	320
Total	593	16,588

*Non-disclosable.

By Occupation-The U.S. Department of Labor, Employment and Training Administration (ETA), has researched the impact of green economy activities and technologies on occupational requirements in order to determine their impact on current occupations and identify new and emerging occupations. ETA's focus was on the "greening" of occupations; that is, "... the extent to which green economy activities and technologies increase the demand for existing occupations, shape the work and worker requirements needed for occupational performance, or generate unique work and worker requirements."

Using this definition, the ETA specified three occupational categories of green jobs:

- (1) Green increased demand occupations, where there is an increase in the demand for an existing occupation. However, this impact does not entail significant changes in the work and worker requirements of the occupation.
- (2) Green enhanced skills occupations, where there is a significant change to the work and worker requirements for an existing occupation, while the essential purposes of the occupation remain the same.
- (3) Green new and emerging occupations where the impact of green economy activities and technologies creates unique work and worker requirements resulting in the generation of a new occupation.

Twelve green economy sectors were selected and researched to determine the level of occupational greening within the sectors. The 12 sectors consist of:

- Renewable Energy Generation
- Energy Efficiency
- Energy Trading
- Research, Design and Consulting
- Agriculture and Forestry
- Recycling and Waste Reduction
- Transportation
- Green Construction
- Energy and Carbon Capture
- Environment Protection
- Manufacturing
- Governmental and Regulatory

There were 64 Standard Industrial Code (SOC) occupations identified as increased demand green occupations, 60 identified as enhanced skill occupations, and 91 identified as new and emerging occupations. These SOC occupations were matched to data collected by the Maine Department of Labor (Table 9 in the appendix).

The specificity of data collected at the statewide level does not match that collected at the national level. For example, employment data for the SOC occupation wind turbine electrical engineer is collected and assigned to the much broader SOC code electrical engineer in Maine. This makes measurement of many green occupations identified by ETA problematic at the statewide level.

All three green occupational categories will likely be found to varying degrees in most of the green economy sectors according to ETA. For example, in the renewable energy generation sector, occupations such as power distributors and dispatchers and power systems operators

may be classified as increased demand. Green enhanced skill occupations might include power plant operators, electrical engineers, and mechanical engineers. This sector is likely to include many green new and emerging occupations, including those associated with designing wind farms, assessing wind capacity, technicians for wind operations, and installing or selling solar equipment. On the other hand, the green construction sector will likely include many increased demand green occupations to include carpenters, electricians, cement masons and concrete finishers, and welders, cutters, solderers, and brazers. Several occupations may be classified as green enhanced skill occupations such as construction managers, civil engineers, and construction and building inspectors. ETA has not found much evidence of green new and emerging occupations in this sector.

By assessing current demand-Recently, the emergence of new data systems with flexible search capabilities offers new opportunities for gauging "real time" occupational demand. WANTED Analytics 2.0, a joint venture of Wanted Technologies and the Conference Board, permits retrieval of the most current information on hiring activity. Information is available for the entire nation, a local region, an occupation, or a company using job postings from multiple job boards as the source. This searchable database not only provides for the identification of detailed occupational titles (including those identified as green jobs i.e. Solar Panel Installer, Wind Turbine Technician, etc.), but also provides access to job descriptions and ad content. The wealth of qualitative information can be accessed and analyzed using key word search to identify the knowledge, skills and abilities being sought by employers. Job titles and content identified in this manner may be readily cross-checked with occupational listings described above. Using this method, we will be able to better estimate the extent of actual demand for workers.

Beyond current job estimates, projecting growth-Much as the definition and number of green jobs is not clear, neither is the long-term impact of green activities on job growth. Projections of green job growth in the future vary significantly depending on definitions.

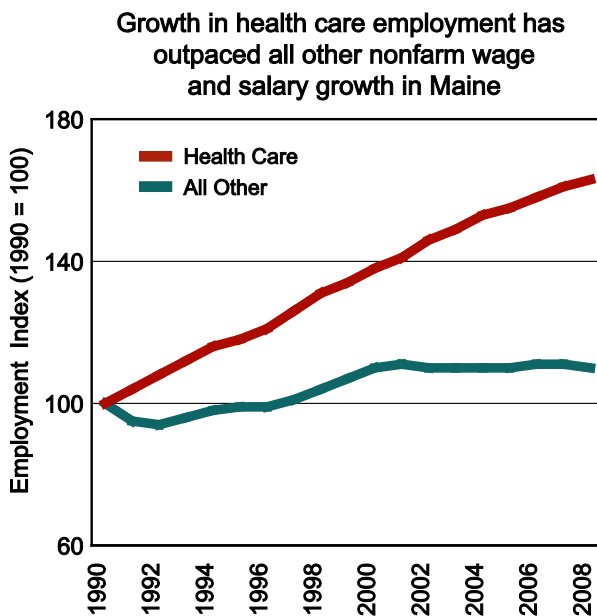
Even with a clear industry/occupation definition of a green job, the long-term impact on jobs will be hard to quantify. For example, a wind farm provides an immediate and significant boost in green jobs, but a smaller enduring job impact. Development of a wind farm requires spending millions of dollars for construction, engineering, and development services. Hundreds of workers are employed as a result, providing a variety of goods and services. However, upon completion only a few employees are needed to maintain and monitor the wind farm. Weatherization and other energy efficiency projects, enhanced by American Recovery and Reinvestment Act funds, have had an immediate impact, but could be limited in duration as funding runs out. Construction of new green buildings may have a longer-term impact and be felt not only among those firms that are involved in the construction industry, but also among those firms that are involved in green design and firms that produce green building materials.

Health Care

The health care industry sector includes ambulatory health care, hospitals, and nursing and residential care. Between 1990 and 2000 the number of health care jobs rose by 18,600 in Maine. An additional 12,200 health care jobs were added between 2000 and 2008, by far the largest gain of any industry sector.

One of the methods of classifying industry concentration is through the use of location quotients (LQs). Industries or sectors with LQs higher than 1.0 have concentrations higher than the national average. Maine LQs for jobs in ambulatory care, hospitals, and nursing and residential care facilities were 1.0, 1.5, and 1.7, respectively, for 2008. Demographics may explain in part the above-average concentration of jobs in hospitals and nursing and residential care facilities. The median age of the Maine population in 2008 was 42 – highest in the nation. The proportion of the Maine population 65 years of age and older is well above the national average.

Health care jobs have grown steadily through the last two decades with little reaction to economic recessions. Job growth in this sector has been somewhat immune to economic downturns as consumers typically forgo other types of spending first. However, lost health insurance and financing issues due to the current economic recession likely slowed growth slightly in 2008 and thus far in 2009. The annual average number of health care jobs rose



1,200 between 2007 and 2008, and for the first seven months of 2009 is up an average of 1,200 over the comparable period for 2008. Between 2000 and 2007, healthcare jobs increased annually by an average of 1,600.

There are many reasons to expect health care job growth to continue. Advances in medical technology and the increased population of the elderly, whose health care needs are greater than average, are expected to drive growth. While the effects of comprehensive health care reform are unknown, the expected expansion of health coverage could lead to increased

demand for workers to provide services to the newly insured population. In addition, most of the health care industry cannot be outsourced so job growth would likely be local in nature.

The current, persistent demand for health care workers is evidenced by current help wanted on-line advertisements. According to WANTED Analytics 7.0, there were over 7,000 advertisements for health care practitioner occupations in Maine during August 2009. The

most substantial number of advertisements was for registered nurses. Pharmacists, occupational therapists, physicians and surgeons, and physicians assistants also were in demand. Recent growth in the number of advertisements has been recorded for many health care occupations, with the highest rates of growth recorded by dental assistants, internists, and family and general practitioner physicians.

Both nationally and in Maine, the health care industry sector is expected to create more jobs than any other sector between 2006 and 2016. Over 30 percent of the expected net job gain in Maine will be in the health care industry sector.

Health care occupations are found primarily in the health care industry. Other employers of health care workers include social assistance; government; professional, scientific, and technical services; health and professional care stores; educational services; and insurance carriers.

Between 2006 and 2016, the projected rate of increase in the number of health care practitioner (18.2 percent) and health care support (14.4 percent) jobs is expected to substantially surpass the increase in the total number of jobs (5.0 percent). Of the twenty occupations with the fastest rate of growth, nine are health care occupations (table 3 in appendix). Of the twenty occupations with the largest projected net growth, seven are health care occupations (table 4 in appendix).

Worker Shortage – A Problem Ahead

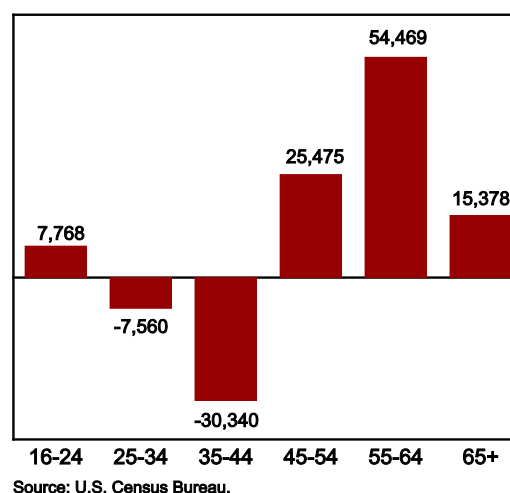
While a lack of workers is certainly not an issue at this time, over the next decade the workforce will age and grow slowly. At the same time, many industries currently employ a high percentage of older workers who will be leaving the workforce.

Population and Civilian Labor Force

The number of Maine residents in the civilian labor force (employed plus unemployed) is expected to increase by about 4.5 percent between 2006 and 2016, down from an increase of 9.7 percent between 1996 and 2006. The primary factors contributing to expected slower labor force growth are population and labor force participation trends.

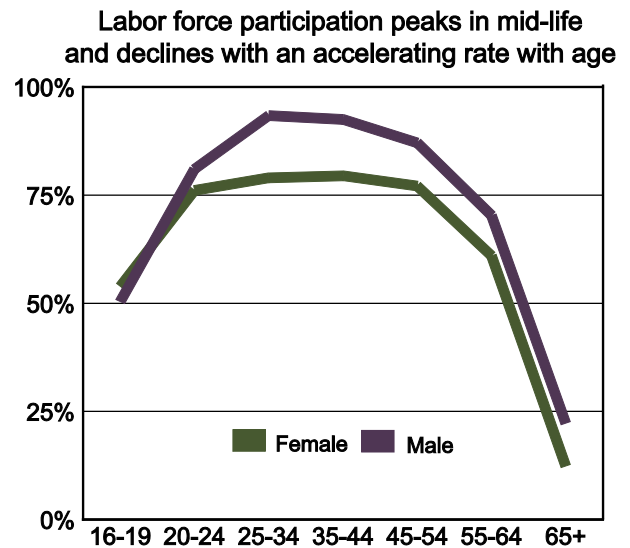
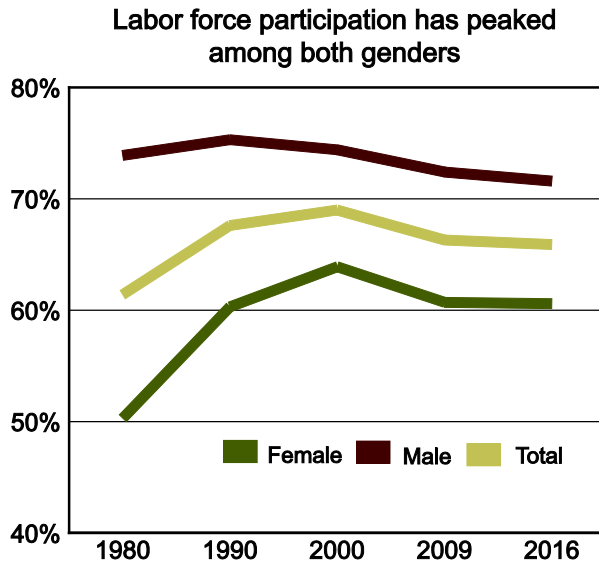
Between 2000 and 2008, the Maine population increased by about 39,000, with most of the increase accounted for by individuals over the age of 44. There was a net loss of 37,900 individuals 25 to 44 years of age.

The population in Maine is aging
(Change in Maine population, 2000 to 2008)



The aging of the population will continue. As the majority of baby boomers – born between 1946 and 1964 – move into their 50s and 60s, the median age of the population will increase. Between 2006 and 2016, individuals aged 55 and over are expected to increase by about 57,000, even though total population growth slows to around 32,000.

Labor force participation rates (the share of the population working or actively seeking work) peaked in 2000 among men and women. The recent declines in labor force participation are expected to continue as the share of the population beyond their prime working years rises.



Aging Workforce

Currently, over 20 percent of Maine workers are age 55 and older, up from 13 percent eight years ago. Over one in five workers employed in government; educational services; utilities; real estate, rental, and leasing; transportation and warehousing; manufacturing; health care and social assistance; and other services is 55 and older.

**Percent of Maine Workers Aged 55 and Over
for Year Ending September 2008**

All Industries	20.1%
.	
Government	29.5%
Educational Services	24.9%
Utilities	23.1%
Real Estate, Rental, and Leasing	23.1%
Transportation and Warehousing	22.7%
Manufacturing	21.3%
Health Care and Social Assistance	21.1%
Other Services	20.5%
Arts, Entertainment, and Recreation	19.5%
Professional, Scientific, and Technical Services	19.4%
Management of Companies	19.1%
Wholesale Trade	18.9%
Retail Trade	18.7%
Information	17.9%
Administrative, Support, and Waste Management	16.5%
Finance and Insurance	16.4%
Construction	15.2%
Accommodation and Food Services	8.8%

Source: Local Employment Dynamics Program.

Implications

These trends have major implications. The aging population is expected to spur growth in the demand for healthcare, leisure activities, and other retirement-related services as the number of prime age workers available to provide those services is declining. Employers, many with a significant proportion of their workforce nearing retirement age, will be faced with a slowly growing, aging population from which the job openings of the future must be filled. Currently, some Maine employers are struggling with restructuring to remain successful in this current economic climate, which may mean reducing the workforce today and, at the same time, being concerned about the workforce of tomorrow. Employers and policy makers must craft multi-faceted responses in order to continue to meet demand for their products and services.

Summary

The impact of the national recession on the Maine labor market has been severe. All major industry sectors with the exception of health services recorded net job losses. The unemployment rate has risen to a rate not seen since the early 1990s. While net job growth and declining unemployment is not expected until mid-2010, signs that the national economy may be bottoming out have begun to appear.

Opportunities and challenges are ahead. Many of the jobs of the future will not resemble those lost. Currently, Maine is moving towards a greener economy by developing renewable energy sources and enhancing energy efficiency, which is providing new jobs and redefining other jobs. The challenge is to better understand the magnitude and makeup of green jobs so workforce training efforts will be aligned with current and future employer needs.

Despite the current labor surplus, shortages are expected to occur in the future as the population grows slowly and older. To meet the challenges of long-term labor needs, Maine employers and policy makers will need to pursue innovative ways to grow the labor force. This offers an opportunity to engage populations underrepresented in the work force, including those with some form of disability.

Appendix

Employment by Industry in Maine, 2006 and Projected 2016				
Industry	Average Employment		Employment Change	
	2006	2016	Net	Percent
Total Employment	676,816	710,509	33,690	5.0%
Self-Employed, Private Household, and Unpaid Family Workers	78,369	80,869	2,500	3.2%
Wage and Salary Jobs	598,447	629,640	31,193	5.2%
Total Private	498,797	530,213	31,416	6.3%
Goods-Producing Industries	97,262	91,087	-6,175	-6.3%
Natural Resources and Mining	5,848	6,056	208	3.6%
Agriculture, Forestry, Fishing and Hunting	5,723	5,926	203	3.5%
Crop production	1,472	1,711	239	16.2%
Animal production	740	781	41	5.5%
Forestry and logging	2,735	2,657	-78	-2.9%
Fishing, hunting and trapping	377	477	100	26.5%
Agriculture and forestry support activities	399	300	-99	-24.8%
Mining	125	130	5	4.0%
Mining, except oil and gas	125	130	5	4.0%
Construction	31,312	32,600	1,288	4.1%
Construction of buildings	8,067	7,850	-217	-2.7%
Heavy and civil engineering construction	3,170	3,250	80	2.5%
Specialty trade contractors	20,075	21,500	1,425	7.1%
Manufacturing	60,102	52,431	-7,671	-12.8%
Durable Goods	32,040	28,286	-3,754	-11.7%
Wood product manufacturing	6,214	4,900	-1,314	-21.1%
Nonmetallic mineral product manufacturing	1,566	1,450	-116	-7.4%
Primary metal manufacturing	359	251	-108	-30.1%
Fabricated metal product manufacturing	4,875	5,795	920	18.9%
Machinery manufacturing	2,130	1,400	-730	-34.3%
Computer and electronic product manufacturing	3,536	2,000	-1,536	-43.4%
Electrical equipment and appliance mfg.	771	400	-371	-48.1%
Transportation equipment manufacturing	9,132	9,286	154	1.7%
Furniture and related product manufacturing	1,441	850	-591	-41.0%
Miscellaneous manufacturing	2,016	1,954	-62	-3.1%
Nondurable Goods	28,062	24,145	-3,917	-14.0%
Food manufacturing	6,167	5,100	-1,067	-17.3%
Beverage and tobacco product manufacturing	1,154	1,320	166	14.4%
Textile mills	1,500	1,439	-61	-4.1%
Textile product mills	1,063	850	-213	-20.0%
Apparel manufacturing	228	228	0	0.0%
Leather and allied product manufacturing	2,228	1,650	-578	-25.9%
Paper manufacturing	9,040	6,350	-2,690	-29.8%
Printing and related support activities	2,376	1,950	-426	-17.9%
Petroleum and coal products manufacturing	381	320	-61	-16.0%
Chemical manufacturing	1,659	2,138	479	28.9%

Employment by Industry in Maine, 2006 and Projected 2016				
Industry	Average Employment		Employment Change	
	2006	2016	Net	Percent
Plastics and rubber products manufacturing	2,266	2,800	534	23.6%
Service-Providing Industries	501,185	538,553	37,368	7.5%
Trade, Transportation, and Utilities	125,057	130,537	5,480	4.4%
Wholesale Trade	21,609	23,300	1,691	7.8%
Merchant wholesalers, durable goods	10,029	10,000	-29	-0.3%
Merchant wholesalers, nondurable goods	8,187	8,300	113	1.4%
Electronic markets and agents and brokers	3,393	5,000	1,607	47.4%
Retail Trade	87,268	89,957	2,689	3.1%
Motor vehicle and parts dealers	10,482	10,939	457	4.4%
Furniture and home furnishings stores	2,257	2,173	-84	-3.7%
Electronics and appliance stores	1,828	2,000	172	9.4%
Building material and garden supply stores	7,649	7,790	141	1.8%
Food and beverage stores	18,131	19,200	1,069	5.9%
Health and personal care stores	3,450	3,700	250	7.2%
Gasoline stations	7,551	7,671	120	1.6%
Clothing and clothing accessories stores	5,166	5,314	148	2.9%
Sporting goods, hobby, book and music stores	3,865	3,200	-665	-17.2%
General merchandise stores	12,606	12,791	185	1.5%
Miscellaneous store retailers	5,045	4,700	-345	-6.8%
Nonstore retailers	9,238	10,479	1,241	13.4%
Transportation and Warehousing	14,332	15,373	1,041	7.3%
Air transportation	383	370	-13	-3.4%
Water transportation	128	128	0	0.0%
Truck transportation	6,293	6,472	179	2.8%
Transit and ground passenger transportation	1,418	1,560	142	10.0%
Pipeline transportation	72	73	1	1.4%
Scenic and sightseeing transportation	233	207	-26	-11.2%
Support activities for transportation	1,461	1,656	195	13.3%
Couriers and messengers	1,918	2,092	174	9.0%
Warehousing and storage	2,426	2,815	389	16.0%
Utilities	1,848	1,907	59	3.2%
Information	11,269	11,467	198	1.8%
Publishing industries, except Internet	3,544	3,576	32	0.9%
Motion picture and sound recording industries	1,135	1,357	222	19.6%
Broadcasting, except Internet	1,283	1,050	-233	-18.2%
Internet publishing and broadcasting	83	95	12	14.5%
Telecommunications	3,052	2,979	-73	-2.4%
ISPs, search portals, and data processing	1,178	1,200	22	1.9%
Other Information Services	994	1,210	216	21.7%
Financial Activities	32,333	33,427	1,094	3.4%
Finance and Insurance	25,260	25,987	727	2.9%

Employment by Industry in Maine, 2006 and Projected 2016				
Industry	Average Employment		Employment Change	
	2006	2016	Net	Percent
Credit intermediation and related activities	12,997	13,680	683	5.3%
Securities, commodity contracts, investments	1,469	1,453	-16	-1.1%
Insurance carriers and related activities	10,735	10,800	65	0.6%
Funds, trusts, and other financial vehicles	59	54	-5	-8.5%
Real Estate and Rental and Leasing	7,073	7,440	367	5.2%
Real estate	4,415	4,786	371	8.4%
Rental and leasing services	2,658	2,654	-4	-0.2%
Professional and Business Services	51,843	57,733	5,890	11.4%
Professional, Scientific and Tech Services	23,457	26,094	2,637	11.2%
Management of companies and enterprises	5,641	6,050	409	7.3%
Administrative and support services	21,053	23,805	2,752	13.1%
Waste management and remediation services	1,692	1,784	92	5.4%
Education and Health Services	105,156	124,144	18,988	18.1%
Educational services	9,490	11,298	1,808	19.1%
Health Care and Social Assistance	95,666	112,846	17,180	18.0%
Ambulatory health care services	24,904	30,507	5,603	22.5%
Hospitals	29,592	34,900	5,308	17.9%
Nursing and residential care facilities	22,562	24,829	2,267	10.0%
Social assistance	18,608	22,610	4,002	21.5%
Leisure and Hospitality	59,731	65,382	5,651	9.5%
Arts, Entertainment, and Recreation	7,938	8,882	944	11.9%
Performing arts and spectator sports	1,028	1,107	79	7.7%
Museums, historical sites, zoos, and parks	445	475	30	6.7%
Amusements, gambling, and recreation	6,465	7,300	835	12.9%
Accommodation and Food Services	51,793	56,500	4,707	9.1%
Accommodation	11,207	12,000	793	7.1%
Food services and drinking places	40,586	44,500	3,914	9.6%
Other Services	16,146	16,436	290	1.8%
Repair and maintenance	4,931	5,000	69	1.4%
Personal and laundry services	4,243	4,391	148	3.5%
Membership associations and organizations	5,287	5,345	58	1.1%
Private households	1,685	1,700	15	0.9%
Government	99,650	99,427	-223	-0.2%
Federal	14,039	13,150	-889	-6.3%
State	24,573	24,652	79	0.3%
Local	61,038	61,625	587	1.0%

Table 2

Employment by Occupational Group in Maine in 2006 and Projected 2016

Occupational Group	Average Employment		Change in Employment		Average Annual Openings			2007 Average Wage
	2006	2016	Net	Percent	Growth	Replacement	Total	
<i>Total</i>	676,816	710,509	33,690	5.0%	4,631	14,773	19,404	\$17.53
Management, Business and Financial Occupations	60,576	63,849	3,273	5.4%	397	1,183	1,580	\$32.25
Management Occupations	37,118	38,646	1,528	4.1%	213	774	987	\$36.83
Business and Financial Operations Occupations	23,458	25,203	1,745	7.4%	184	409	593	\$25.71
Professional and Related Occupations	136,531	149,511	12,980	9.5%	1,440	2,767	4,207	\$24.19
Computer and Mathematical Occupations	8,394	9,719	1,325	15.8%	143	196	339	\$28.39
Architecture and Engineering Occupations	9,135	8,981	-154	-1.7%	31	213	244	\$28.19
Life, Physical, and Social Science Occupations	5,304	5,713	409	7.7%	45	138	183	\$25.51
Community and Social Services Occupations	16,682	19,319	2,637	15.8%	265	271	536	\$16.85
Legal Occupations	4,639	5,004	365	7.9%	38	81	119	\$34.77
Education, Training, and Library Occupations	40,670	41,876	1,206	3.0%	171	842	1,013	\$39,820
Arts, Design, Entertainment, Sports, and Media Occupations	14,216	14,573	357	2.5%	62	337	399	\$16.90
Healthcare Practitioners and Technical Occupations	37,491	44,326	6,835	18.2%	685	689	1,374	\$31.36
Service Occupations	133,794	148,114	14,320	10.7%	1,448	3,219	4,667	\$11.18
Healthcare Support Occupations	22,143	25,328	3,185	14.4%	321	226	547	\$11.85
Protective Service Occupations	10,131	11,153	1,022	10.1%	102	293	395	\$16.06
Food Preparation and Serving Related Occupations	53,610	58,719	5,109	9.5%	511	1,770	2,281	\$9.85
Building and Grounds Cleaning and Maintenance Occupations	25,373	27,214	1,841	7.3%	184	436	620	\$11.72
Personal Care and Service Occupations	22,537	25,700	3,163	14.0%	330	494	824	\$10.51
Sales and Related Occupations	68,674	70,743	2,069	3.0%	276	2,079	2,355	\$15.11
Office and Administrative Support Occupations	104,429	106,806	2,377	2.3%	551	2,202	2,753	\$13.95
Farming, Fishing, and Forestry Occupations	9,151	9,679	528	5.8%	82	176	258	\$14.44
Construction and Extraction Occupations	42,460	43,460	1,000	2.4%	122	737	859	\$16.96
Installation, Maintenance, and Repair Occupations	29,757	30,622	865	2.9%	128	495	623	\$17.56
Production Occupations	45,254	41,401	-3,853	-8.5%	70	906	976	\$15.29
Transportation and Material Moving Occupations	46,191	46,322	131	0.3%	117	1,011	1,128	\$13.55

Average wages are for wage and salary workers and do not include the self-employed. The average by occupational group is as estimate calculated using 2007 wages and 2006 employment.

Table 3

Forty Occupations with the Fastest Projected Rate of Job Growth in Maine Between 2006 and 2016					
SOC Code	Occupation	Average Employment		Growth Rate	Education/Training Requirement
		2006	2016		
25-1194	Vocational Education Teachers, Postsecondary	296	447	51.0%	Bachelor's or higher, plus work experience
15-1081	Network Systems and Data Communications Analysts	798	1,174	47.1%	Bachelor's degree
25-9031	Instructional Coordinators	361	498	38.0%	Master's degree
21-1011	Substance Abuse and Behavioral Disorder Counselors	658	902	37.1%	Bachelor's degree
31-9092	Medical Assistants	1,949	2,603	33.6%	Moderate-term on-the-job training
31-2021	Physical Therapist Assistants	196	260	32.7%	Associate degree
29-2052	Pharmacy Technicians	1,562	2,072	32.7%	Moderate-term on-the-job training
15-1031	Computer Software Engineers, Applications	1,045	1,360	30.1%	Bachelor's degree
49-9062	Medical Equipment Repairers	111	144	29.7%	Associate degree
25-3011	Adult Literacy, Remedial Education, and GED Teachers and Instructors	199	255	28.1%	Bachelor's degree
39-9021	Personal and Home Care Aides	6,188	7,925	28.1%	Short-term on-the-job training
29-2056	Veterinary Technologists and Technicians	525	671	27.8%	Associate degree
41-3099	Sales Representatives, Services, All Other	1,254	1,601	27.7%	Work experience in a related occupation
27-3091	Interpreters and Translators	305	387	26.9%	Long-term on-the-job training
29-2055	Surgical Technologists	443	561	26.6%	Postsecondary vocational training
21-1093	Social and Human Service Assistants	4,791	6,063	26.5%	Moderate-term on-the-job training
29-1124	Radiation Therapists	107	135	26.2%	Associate degree
21-1014	Mental Health Counselors	468	588	25.6%	Master's degree
29-2031	Cardiovascular Technologists and Technicians	207	260	25.6%	Associate degree
39-5092	Manicurists and Pedicurists	126	158	25.4%	Postsecondary vocational training
29-2011	Medical and Clinical Laboratory Technologists	887	1,110	25.1%	Bachelor's degree
49-3093	Tire Repairers and Changers	329	410	24.6%	Short-term on-the-job training
29-1131	Veterinarians	472	588	24.6%	First professional degree
21-1091	Health Educators	456	565	23.9%	Bachelor's degree
29-1123	Physical Therapists	985	1,215	23.4%	Master's degree
29-1126	Respiratory Therapists	493	607	23.1%	Associate degree
21-1099	Community and Social Service Specialists, All Other	175	215	22.9%	Bachelor's degree
21-1013	Marriage and Family Therapists	110	135	22.7%	Master's degree
29-1071	Physician Assistants	594	728	22.6%	Master's degree
29-1051	Pharmacists	1,169	1,431	22.4%	First professional degree
29-1111	Registered Nurses	14,048	17,045	21.3%	Associate degree
31-2022	Physical Therapist Aides	152	184	21.1%	Short-term on-the-job training
29-9099	Healthcare Practitioners and Technical Workers, All Other	362	437	20.7%	Bachelor's degree
21-1022	Medical and Public Health Social Workers	765	923	20.7%	Bachelor's degree
31-9091	Dental Assistants	1,066	1,286	20.6%	Moderate-term on-the-job training
29-2041	Emergency Medical Technicians and Paramedics	1,362	1,642	20.6%	Postsecondary vocational training
31-1011	Home Health Aides	4,949	5,957	20.4%	Short-term on-the-job training
29-2021	Dental Hygienists	977	1,175	20.3%	Associate degree
49-2098	Security and Fire Alarm Systems Installers	313	376	20.1%	Postsecondary vocational training
15-1061	Database Administrators	329	395	20.1%	Bachelor's degree

Occupations with fewer than 100 jobs in 2006 were excluded from this list.

Table 4

Forty Occupations with the Largest Projected Net Job Growth in Maine Between 2006 and 2016					
SOC Code	Occupation	Average Employment		Net Growth	Education/Training Requirement
		2006	2016		
29-1111	Registered Nurses	14,048	17,045	2,997	Associate degree
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	13,466	15,461	1,995	Short-term on-the-job training
39-9021	Personal and Home Care Aides	6,188	7,925	1,737	Short-term on-the-job training
43-4051	Customer Service Representatives	8,109	9,441	1,332	Moderate-term on-the-job training
21-1093	Social and Human Service Assistants	4,791	6,063	1,272	Moderate-term on-the-job training
31-1011	Home Health Aides	4,949	5,957	1,008	Short-term on-the-job training
35-3031	Waiters and Waitresses	10,928	11,788	860	Short-term on-the-job training
41-2031	Retail Salespersons	19,296	20,128	832	Short-term on-the-job training
43-9061	Office Clerks, General	14,238	15,020	782	Short-term on-the-job training
31-1012	Nursing Aides, Orderlies, and Attendants	10,039	10,816	777	Postsecondary vocational training
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	6,214	6,960	746	Work experience in a related occupation
31-9092	Medical Assistants	1,949	2,603	654	Moderate-term on-the-job training
37-3011	Landscaping and Groundskeeping Workers	5,237	5,850	613	Short-term on-the-job training
43-6013	Medical Secretaries	3,602	4,149	547	Moderate-term on-the-job training
43-3071	Tellers	2,974	3,518	544	Short-term on-the-job training
13-1199	Business Operations Specialists, All Other	3,654	4,187	533	Bachelor's degree
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	9,828	10,361	533	Short-term on-the-job training
37-2012	Maids and Housekeeping Cleaners	7,990	8,523	533	Short-term on-the-job training
35-2021	Food Preparation Workers	5,526	6,052	526	Short-term on-the-job training
29-2052	Pharmacy Technicians	1,562	2,072	510	Moderate-term on-the-job training
39-5012	Hairdressers, Hairstylists, and Cosmetologists	3,429	3,937	508	Postsecondary vocational training
39-9011	Child Care Workers	5,781	6,288	507	Short-term on-the-job training
43-3031	Bookkeeping, Accounting, and Auditing Clerks	8,118	8,617	499	Moderate-term on-the-job training
35-2014	Cooks, Restaurant	4,958	5,396	438	Long-term on-the-job training
13-2011	Accountants and Auditors	3,967	4,395	428	Bachelor's degree
15-1081	Network Systems and Data Communications Analysts	798	1,174	376	Bachelor's degree
53-3032	Truck Drivers, Heavy and Tractor-Trailer	11,827	12,184	357	Moderate-term on-the-job training
41-3099	Sales Representatives, Services, All Other	1,254	1,601	347	Work experience in a related occupation
21-1023	Mental Health and Substance Abuse Social Workers	1,753	2,092	339	Master's degree
15-1051	Computer Systems Analysts	1,688	2,019	331	Bachelor's degree
35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers	4,110	4,437	327	Work experience in a related occupation
15-1031	Computer Software Engineers, Applications	1,045	1,360	315	Bachelor's degree
53-3033	Truck Drivers, Light or Delivery Services	4,364	4,678	314	Short-term on-the-job training
35-3011	Bartenders	2,521	2,829	308	Short-term on-the-job training
29-2041	Emergency Medical Technicians and Paramedics	1,362	1,642	280	Postsecondary vocational training
11-9081	Lodging Managers	1,606	1,875	269	Work experience in a related occupation
29-1051	Pharmacists	1,169	1,431	262	First professional degree
43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	7,720	7,979	259	Work experience in a related occupation
41-2021	Counter and Rental Clerks	2,022	2,277	255	Short-term on-the-job training
43-4171	Receptionists and Information Clerks	2,870	3,124	254	Short-term on-the-job training

Table 5

Forty Occupations with the Largest Projected Number of Annual Openings in Maine Between 2006 and 2016							
SOC Code	Occupation	Average Employment		Average Annual Openings			Education/Training Requirement
		2006	2016	Growth	Replacement	Total	
41-2011	Cashiers	15,871	15,649	0	755	755	Short-term on-the-job training
35-3031	Waiters and Waitresses	10,928	11,788	86	594	680	Short-term on-the-job training
41-2031	Retail Salespersons	19,296	20,128	83	594	677	Short-term on-the-job training
29-1111	Registered Nurses	14,048	17,045	300	232	532	Associate degree
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	13,466	15,461	200	255	455	Short-term on-the-job training
43-4051	Customer Service Representatives	8,109	9,441	133	226	359	Moderate-term on-the-job training
43-9061	Office Clerks, General	14,238	15,020	78	261	339	Short-term on-the-job training
39-9021	Personal and Home Care Aides	6,188	7,925	174	105	279	Short-term on-the-job training
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	8,560	8,354	0	274	274	Short-term on-the-job training
53-3032	Truck Drivers, Heavy and Tractor-Trailer	11,827	12,184	36	210	246	Moderate-term on-the-job training
35-2021	Food Preparation Workers	5,526	6,052	53	192	245	Short-term on-the-job training
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	9,828	10,361	53	188	241	Short-term on-the-job training
39-9011	Child Care Workers	5,781	6,288	51	166	217	Short-term on-the-job training
41-1011	First-Line Supervisors/Managers of Retail Sales Workers	10,067	10,114	5	211	216	Work experience in a related occupation
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	6,214	6,960	75	137	212	Work experience in a related occupation
11-1021	General and Operations Managers	8,671	8,263	0	209	209	Bachelor's or higher, plus experience
37-2012	Maids and Housekeeping Cleaners	7,990	8,523	53	151	204	Short-term on-the-job training
43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	7,720	7,979	26	159	185	Work experience in a related occupation
43-3071	Tellers	2,974	3,518	54	130	184	High-School Diploma or Less
21-1093	Social and Human Service Assistants	4,791	6,063	127	55	182	Moderate-term on-the-job training
43-5081	Stock Clerks and Order Fillers	7,601	6,921	0	180	180	Short-term on-the-job training
35-2014	Cooks, Restaurant	4,958	5,396	44	134	178	Long-term on-the-job training
43-3031	Bookkeeping, Accounting, and Auditing Clerks	8,118	8,617	50	127	177	Moderate-term on-the-job training
43-6014	Secretaries, Except Legal, Medical, and Executive	10,805	10,121	0	172	172	Moderate-term on-the-job training
31-1012	Nursing Aides, Orderlies, and Attendants	10,039	10,816	78	90	168	Postsecondary vocational training
25-2021	Elementary School Teachers, Except Special Education	6,419	6,604	19	140	159	Bachelor's degree
25-2031	Secondary School Teachers, Except Special and Vocational Education	5,335	5,125	0	159	159	Bachelor's degree
47-2031	Carpenters	11,492	11,306	0	156	156	Long-term on-the-job training
31-1011	Home Health Aides	4,949	5,957	101	44	145	Short-term on-the-job training
49-3023	Automotive Service Technicians and Mechanics	5,392	5,639	25	108	133	Postsecondary vocational training
25-9041	Teacher Assistants	7,961	7,783	0	130	130	Short-term on-the-job training
37-3011	Landscaping and Groundskeeping Workers	5,237	5,850	61	69	130	Short-term on-the-job training
35-9021	Dishwashers	2,668	2,839	17	109	126	Short-term on-the-job training
35-3011	Bartenders	2,521	2,829	31	92	123	Short-term on-the-job training
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	1,525	1,616	9	106	115	Short-term on-the-job training
13-2011	Accountants and Auditors	3,967	4,395	43	70	113	Bachelor's degree
43-6013	Medical Secretaries	3,602	4,149	55	57	112	Moderate-term on-the-job training
53-3033	Truck Drivers, Light or Delivery Services	4,364	4,678	31	77	108	Short-term on-the-job training
13-1199	Business Operations Specialists, All Other	3,654	4,187	53	39	92	Bachelor's degree
39-5012	Hairdressers, Hairstylists, and Cosmetologists	3,429	3,937	51	41	92	Postsecondary vocational training

Table 7

High-Wage, In-Demand Jobs in Maine by Education or Training Requirement for Entry Sorted by Projected Annual Job Openings						
Occupation	Employment		Growth Rate	Annual Openings	Median Wage	Education/Training Requirement
	2006	2016				
High-School Diploma or Less						
Advertising Sales Agents	756	873	15.5%	25	\$16.60	Moderate-term on-the-job training
Bill and Account Collectors	1,596	1,769	10.8%	41	\$14.31	Short-term on-the-job training
Bookkeeping, Accounting, and Auditing Clerks	8,118	8,617	6.1%	177	\$14.35	Moderate-term on-the-job training
Cabinetmakers and Bench Carpenters	903	627	-30.6%	27	\$14.33	Long-term on-the-job training
Carpenters	11,492	11,306	-1.6%	156	\$15.73	Long-term on-the-job training
Claims Adjusters, Examiners, and Investigators	1,575	1,615	2.5%	44	\$23.73	Long-term on-the-job training
Correctional Officers and Jailers	1,263	1,458	15.4%	49	\$15.06	Moderate-term on-the-job training
Dental Assistants	1,066	1,286	20.6%	41	\$15.57	Moderate-term on-the-job training
Dispatchers, Except Police, Fire, and Ambulance	798	789	-1.1%	20	\$15.13	Moderate-term on-the-job training
Electricians	3,304	3,340	1.1%	89	\$20.99	Long-term on-the-job training
Executive Secretaries and Administrative Assistants	3,533	3,733	5.7%	76	\$18.67	Work experience in a related occupation
Fire Fighters	1,339	1,486	11.0%	64	\$17.16	Long-term on-the-job training
First-Line Supervisors/Managers of Construction Trades and Extraction Workers	4,627	4,748	2.6%	77	\$22.42	Work experience in a related occupation
First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	1,153	1,278	10.8%	37	\$16.61	Work experience in a related occupation
First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	2,530	2,535	0.2%	60	\$22.50	Work experience in a related occupation
First-Line Supervisors/Managers of Office and Administrative Support Workers	7,720	7,979	3.4%	185	\$18.47	Work experience in a related occupation
First-Line Supervisors/Managers of Production and Operating Workers	3,893	3,745	-3.8%	65	\$21.88	Work experience in a related occupation
First-Line Supervisors/Managers of Retail Sales Workers	10,067	10,114	0.5%	216	\$15.25	Work experience in a related occupation
First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators	908	964	6.2%	25	\$23.41	Work experience in a related occupation
Food Service Managers	1,744	1,781	2.1%	45	\$20.91	Work experience in a related occupation
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1,951	2,103	7.8%	49	\$17.77	Long-term on-the-job training
Industrial Machinery Mechanics	1,021	1,096	7.3%	25	\$18.93	Long-term on-the-job training
Industrial Production Managers	695	614	-11.7%	24	\$34.88	Work experience in a related occupation
Inspectors, Testers, Sorters, Samplers, and Weighers	1,720	1,473	-14.4%	26	\$14.28	Moderate-term on-the-job training
Insurance Claims and Policy Processing Clerks	1,849	1,699	-8.1%	22	\$15.09	Moderate-term on-the-job training

Table 7 cont.

High-Wage, In-Demand Jobs in Maine by Education or Training Requirement for Entry Sorted by Projected Annual Job Openings						
Occupation	Employment		Growth Rate	Annual Openings	Median Wage	Education/Training Requirement
	2006	2016				
Lodging Managers	1,606	1,875	16.7%	62	\$20.84	Work experience in a related occupation
Machinists	1,832	1,905	4.0%	35	\$19.98	Long-term on-the-job training
Maintenance and Repair Workers, General	5,391	5,572	3.4%	31	\$14.91	Moderate-term on-the-job training
Managers, All Other	1,447	1,454	0.5%	30	\$32.85	Work experience in a related occupation
Mobile Heavy Equipment Mechanics, Except Engines	886	933	5.3%	22	\$17.79	Long-term on-the-job training
Operating Engineers and Other Construction Equipment Operators	2,039	2,164	6.1%	53	\$15.38	Moderate-term on-the-job training
Painters, Construction and Maintenance	2,969	3,029	2.0%	59	\$16.22	Moderate-term on-the-job training
Paper Goods Machine Setters, Operators, and Tenders	951	700	-26.4%	23	\$18.38	Moderate-term on-the-job training
Plumbers, Pipefitters, and Steamfitters	2,905	2,973	2.3%	67	\$20.40	Long-term on-the-job training
Police and Sheriff's Patrol Officers	2,277	2,525	10.9%	86	\$18.36	Long-term on-the-job training
Police, Fire, and Ambulance Dispatchers	648	733	13.1%	25	\$15.71	Moderate-term on-the-job training
Postal Service Mail Carriers	1,713	1,662	-3.0%	50	\$20.76	Short-term on-the-job training
Power Plant Operators	457	504	10.3%	21	\$24.15	Long-term on-the-job training
Production, Planning, and Expediting Clerks	1,287	1,279	-0.6%	35	\$18.50	Moderate-term on-the-job training
Purchasing Agents, Except Wholesale, Retail, and Farm Products	995	974	-2.1%	21	\$21.74	Long-term on-the-job training
Real Estate Brokers	1,344	1,334	-0.7%	22	\$29.47	Work experience in a related occupation
Sales Representatives, Services, All Other	1,254	1,601	27.7%	65	\$21.78	Work experience in a related occupation
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	6,214	6,960	12.0%	212	\$22.61	Work experience in a related occupation
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	775	803	3.6%	20	\$27.50	Work experience in a related occupation
Self-Enrichment Education Teachers	1,119	1,294	15.6%	30	\$14.68	Work experience in a related occupation
Sheet Metal Workers	1,267	1,358	7.2%	40	\$17.14	Long-term on-the-job training
Transportation, Storage, and Distribution Managers	701	736	5.0%	25	\$29.94	Work experience in a related occupation
Truck Drivers, Heavy and Tractor-Trailer	11,827	12,184	3.0%	246	\$14.97	Moderate-term on-the-job training
Post-Secondary Education Less Than Bachelor's Degree						
Architectural and Civil Drafters	719	731	1.7%	22	\$18.77	Postsecondary vocational training
Automotive Service Technicians and Mechanics	5,392	5,639	4.6%	133	\$14.44	Postsecondary vocational training

Table 7 cont.

High-Wage, In-Demand Jobs in Maine by Education or Training Requirement for Entry Sorted by Projected Annual Job Openings						
Occupation	Employment		Growth Rate	Annual Openings	Median Wage	Education/Training Requirement
	2006	2016				
Bus and Truck Mechanics and Diesel Engine Specialists	1,241	1,310	5.6%	34	\$16.45	Postsecondary vocational training
Computer Support Specialists	1,690	1,778	5.2%	61	\$19.33	Associate degree
Dental Hygienists	977	1,175	20.3%	39	\$28.18	Associate degree
Legal Secretaries	1,349	1,419	5.2%	29	\$16.04	Associate degree
Licensed Practical and Licensed Vocational Nurses	1,824	1,931	5.9%	61	\$17.91	Postsecondary vocational training
Mechanical Drafters	742	754	1.6%	22	\$22.42	Postsecondary vocational training
Medical and Clinical Laboratory Technicians	756	896	18.5%	25	\$16.17	Associate degree
Paralegals and Legal Assistants	1,053	1,216	15.5%	30	\$19.35	Associate degree
Radiologic Technologists and Technicians	1,106	1,327	20.0%	37	\$23.86	Associate degree
Registered Nurses	14,048	17,045	21.3%	532	\$27.13	Associate degree
Surgical Technologists	443	561	26.6%	26	\$16.89	Postsecondary vocational training
Telecommunications Equipment Installers and Repairers, Except Line Installers	744	847	13.8%	28	\$20.02	Postsecondary vocational training
Welders, Cutters, Solderers, and Brazers	1,691	1,816	7.4%	49	\$18.28	Postsecondary vocational training
Bachelor's Degree or Higher						
Accountants and Auditors	3,967	4,395	10.8%	113	\$23.13	Bachelor's degree
Administrative Services Managers	1,097	1,151	4.9%	34	\$27.23	Bachelor's or higher degree, plus work experience
Appraisers and Assessors of Real Estate	716	774	8.1%	20	\$20.12	Bachelor's degree
Biological Technicians	560	650	16.1%	29	\$17.43	Bachelor's degree
Business Operations Specialists, All Other	3,654	4,187	14.6%	92	\$24.73	Bachelor's degree
Chief Executives	903	852	-5.6%	25	\$49.18	Bachelor's or higher degree, plus work experience
Child, Family, and School Social Workers	2,132	2,331	9.3%	65	\$18.61	Bachelor's degree
Civil Engineers	792	841	6.2%	26	\$29.08	Bachelor's degree
Clergy	2,245	2,252	0.3%	31	\$21.96	Master's degree
Clinical, Counseling, and School Psychologists	790	877	11.0%	21	\$29.44	Doctoral degree
Compensation, Benefits, and Job Analysis Specialists	805	866	7.6%	23	\$21.11	Bachelor's degree
Computer and Information Systems Managers	873	940	7.7%	21	\$39.97	Bachelor's or higher degree, plus work experience

Table 7 cont.

High-Wage, In-Demand Jobs in Maine by Education or Training Requirement for Entry Sorted by Projected Annual Job Openings						
Occupation	Employment		Growth Rate	Annual Openings	Median Wage	Education/Training Requirement
	2006	2016				
Computer Software Engineers, Applications	1,045	1,360	30.1%	47	\$30.65	Bachelor's degree
Computer Systems Analysts	1,688	2,019	19.6%	78	\$33.34	Bachelor's degree
Construction Managers	1,825	1,892	3.7%	35	\$34.77	Bachelor's degree
Cost Estimators	751	853	13.6%	25	\$21.63	Bachelor's degree
Education Administrators, Elementary and Secondary School	1,464	1,433	-2.1%	41	\$66,870	Bachelor's or higher degree, plus work experience
Education Administrators, Postsecondary	593	637	7.4%	21	\$27.93	Bachelor's or higher degree, plus work experience
Educational, Vocational, and School Counselors	1,097	1,086	-1.0%	22	\$21.29	Master's degree
Elementary School Teachers, Except Special Education	6,419	6,604	2.9%	159	\$44,740	Bachelor's degree
Environmental Scientists and Specialists, Including Health	689	750	8.9%	24	\$22.54	Master's degree
Family and General Practitioners	781	838	7.3%	20	\$66.61	First professional degree
Financial Managers	2,692	2,881	7.0%	58	\$32.53	Bachelor's or higher degree, plus work experience
General and Operations Managers	8,671	8,263	-4.7%	209	\$37.04	Bachelor's or higher degree, plus work experience
Graphic Designers	957	1,007	5.2%	30	\$16.39	Bachelor's degree
Industrial Engineers	630	701	11.3%	22	\$32.86	Bachelor's degree
Insurance Sales Agents	3,122	3,241	3.8%	80	\$20.81	Bachelor's degree
Kindergarten Teachers, Except Special Education	890	937	5.3%	20	\$43,740	Bachelor's degree
Lawyers	2,944	3,111	5.7%	73	\$38.52	First professional degree
Librarians	870	885	1.7%	26	\$20.62	Master's degree
Loan Officers	1,511	1,645	8.9%	29	\$23.74	Bachelor's degree
Management Analysts	2,193	2,261	3.1%	44	\$29.73	Bachelor's or higher degree, plus work experience
Medical and Clinical Laboratory Technologists	887	1,110	25.1%	35	\$22.87	Bachelor's degree
Medical and Health Services Managers	1,607	1,853	15.3%	55	\$33.77	Bachelor's or higher degree, plus work experience
Medical and Public Health Social Workers	765	923	20.7%	32	\$17.67	Bachelor's degree
Mental Health and Substance Abuse Social Workers	1,753	2,092	19.3%	71	\$19.54	Master's degree
Mental Health Counselors	468	588	25.6%	21	\$19.29	Master's degree
Middle School Teachers, Except Special and Vocational Education	3,241	3,265	0.7%	73	\$44,340	Bachelor's degree

Table 7 cont.

High-Wage, In-Demand Jobs in Maine by Education or Training Requirement for Entry Sorted by Projected Annual Job Openings						
Occupation	Employment		Growth Rate	Annual Openings	Median Wage	Education/Training Requirement
	2006	2016				
Network and Computer Systems Administrators	1,077	1,267	17.6%	44	\$27.74	Bachelor's degree
Network Systems and Data Communications Analysts	798	1,174	47.1%	54	\$28.74	Bachelor's degree
Pharmacists	1,169	1,431	22.4%	46	\$54.11	First professional degree
Physical Therapists	985	1,215	23.4%	35	\$28.43	Master's degree
Physician Assistants	594	728	22.6%	21	\$37.99	Master's degree
Physicians and Surgeons, All Other	1,435	1,600	11.5%	43	\$70.00	First professional degree
Rehabilitation Counselors	677	746	10.2%	20	\$17.14	Master's degree
Sales Managers	1,263	1,303	3.2%	32	\$34.96	Bachelor's or higher degree, plus work experience
Secondary School Teachers, Except Special and Vocational Education	5,335	5,125	-3.9%	159	\$42,850	Bachelor's degree
Securities, Commodities, and Financial Services Sales Agents	1,054	1,109	5.2%	33	\$31.36	Bachelor's degree
Social and Community Service Managers	1,054	1,180	12.0%	33	\$22.96	Bachelor's degree
Special Education Teachers, Preschool, Kindergarten, and Elementary School	1,652	1,787	8.2%	51	\$43,490	Bachelor's degree
Substance Abuse and Behavioral Disorder Counselors	658	902	37.1%	37	\$18.92	Bachelor's degree
Training and Development Specialists	913	1,009	10.5%	30	\$19.82	Bachelor's or higher degree, plus work experience
Veterinarians	472	588	24.6%	21	\$35.77	First professional degree
Vocational Education Teachers, Postsecondary	296	447	51.0%	20	\$22.86	Bachelor's or higher degree, plus work experience
Notes						
1. High-Wage-In-Demand Criteria						
- Median wage above the \$14.28 per hour, \$29,702 annual median wage of all Maine occupations in 2007.						
-Total statewide projected annual job openings of 20 or greater between 2006 and 2016.						
2. Some occupations are not listed due to statistical validity and non-disclosure constraints. It should be noted that some of these occupations may employ substantial numbers.						
3. Median wage rates of \$70.00 per hour, \$145,600 per year or above are noted in italics. This represents the upper limit of the wage analysis program.						
4. Some wage rates were not published in 2007, but were available in 2006. Substitutions of 2006 data appear in italics.						

Table 8

Maine Industries Identified As Green Industries*		
Industry Sector	Industry	
	NAICS Code	Name
Agriculture	111110	Soybean farming
	111940	Hay farming
	115310	Support activities for forestry
Construction	236118	Residential remodelers
	237130	Power and communication system construction
	238161	Residential roofing contractors
	238162	Nonresidential roofing contractors
	238211	Residential electrical contractors
	238212	Nonresidential electrical contractors
	238221	Residential plumbing and HVAC contractors
	238222	Nonresidential plumbing and HVAC contractors
	238311	Residential drywall contractors
	238312	Nonresidential drywall contractors
Manufacturing	321113	Sawmills
	321219	Reconstituted wood product manufacturing
	321911	Wood window and door manufacturing
	321918	Other millwork, including flooring
	321999	Miscellaneous wood product manufacturing
	327211	Flat glass manufacturing
	327215	Glass product mfg. made of purchased glass
	327993	Mineral wool manufacturing
	332321	Metal window and door manufacturing
	333414	Heating equipment, except warm air furnaces
	333415	AC, refrigeration, and forced air heating
	333611	Turbine and turbine generator set units mfg.
	334413	Semiconductors and related device mfg.
	334512	Automatic environmental control manufacturing
	334513	Industrial process variable instruments
	334515	Electricity and signal testing instruments
	334519	Other measuring and controlling device mfg.
	335110	Electric lamp bulb and part manufacturing
	335121	Residential electric lighting fixture mfg.
	335999	Miscellaneous electrical equipment mfg.
	311221	Wet corn milling
	314999	All other miscellaneous textile product mills
	325120	Industrial gas manufacturing
	326140	Polystyrene foam product manufacturing
	326150	Urethane and other foam product manufacturing

Table 8 cont.

Maine Industries Identified As Green Industries*		
Wholesale Trade	423330	Roofing and siding merchant wholesalers
	423720	Plumbing equip. merchant wholesalers
	423730	HVAC equip. merchant wholesalers
Retail Trade	442291	Window treatment stores
	442299	All other home furnishings stores
	454311	Heating oil dealers
	454312	Liquefied petroleum gas, bottled gas, dealers
	454319	Other fuel dealers
Utilities	221111	Hydroelectric power generation
	221112	Fossil fuel electric power generation
	221119	Other electric power generation
	221122	Electric power distribution
Professional, Scientific & Technical Services	541310	Architectural services
	541330	Engineering services
	541350	Building inspection services
	541410	Interior design services
	541420	Industrial design services
	541614	Process and logistics consulting services
	541618	Other management consulting services
	541620	Environmental consulting services
	541690	Other technical consulting services
	541712	Research and Development in the Physical, Eng
Education Services	611310	Colleges and universities
	611430	Management training
	611519	Other technical and trade schools
Social Assistance	624229	Other community housing services
Other Services	811219	Other electronic equipment repair
	811310	Commercial machinery repair and maintenance
	811412	Appliance repair and maintenance
	813312	Environment and conservation organizations
Public Administration	924110	Air, water, and waste program administration
	924120	Administration of conservation programs
	925110	Administration of housing programs
	926130	Utility regulation and administration
	926140	Agricultural market and commodity regulation

* Industries which have an involvement in energy efficiency or renewable energy activities.

Includes public and private ownerships.

Table 9

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings

Green Occupation Identified by the U.S. Employment and Training Administration	SOC Occupational Title	Data Specific to Maine	
		2006 to 2016 Projected Employment Change	Annual Job Openings
Combustion Technicians	Power Plant Operators	10.3%	21
Electrical Energy Storage/Distribution Technicians	Storage and Distribution Managers	5.0%	25
Ethanol Maintenance Mechanics	Maintenance and Repair Workers, General	3.4%	31
Fuel Storage Technicians	Storage and Distribution Managers	5.0%	25
Geothermal Electrical Engineers	Electrical Engineers	-10.0%	6
Geo-thermal Heat Pump Machinists	Machinists	4.0%	35
Geothermal Operations Engineers	Power Plant Operators	10.3%	21
Geothermal Power Generation Mechanical Engineers	Mechanical Engineers	-9.4%	14
Geo-thermal Sheet Metal Workers	Sheet Metal Workers	7.2%	40
Hydro-Electric Operations Maintenance Workers	Maintenance and Repair Workers, General	3.4%	31
Hydro-Electric Plant Electrical Engineers	Power Plant Operators	10.3%	21
Hydro-Electric Plant Mechanical Engineers	Mechanical Engineers	-9.4%	14
Hydro-electric Plant Power Generation Engineers	Power Plant Operators	10.3%	21
Hydrogen Plant Operator and Operations Managers	Power Plant Operators	10.3%	21
Hydrogen Power Plant Installation, Operations, Engineering and Management Staff - General	Power Plant Operators	10.3%	21
ICE Technicians Instrumentation/Controls/Electrical Systems	Power Plant Operators	10.3%	21
Instrument/Control Technicians and Process Operators	Power Plant Operators	10.3%	21
Methane Capturing System Maintenance Workers	Maintenance and Repair Workers, General	3.4%	31
Oil and Gas Exploration Technicians	Geological Sample Test Technicians	0.0%	1
Oil Refinery Process Technicians	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	-12.4%	11
Power System Operators	Power Distributors and Dispatchers	0.0%	0
PV Power Systems Engineers	Electrical Engineers	-10.0%	6

Table 9 cont.

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings			
PV Solar Cell Designers	Electrical Engineers	-10.0%	6
Solar Designer/Engineers	Electrical Engineers	-10.0%	6
Solar Energy Engineers	Electrical Engineers	-10.0%	6
Solar Energy Systems Designers	Electrical Engineers	-10.0%	6
Solar Operations Engineers	Civil Engineers	6.2%	26
Utility Plant Operatives	Power Plant Operators	10.3%	21
Wastewater Plant Civil Engineers	Civil Engineers	6.2%	26
Wind Farm Electrical Systems Designers	Electrical Engineers	-10.0%	6
Wind Turbine Electrical Engineers	Electrical Engineers	-10.0%	6
Wind Turbine Mechanical Engineers	Mechanical Engineers	-9.4%	14
Alternative Fuel Vehicle AFV Maintenance/Repair Technicians	Automotive Specialty Technicians	4.6%	133
Auto Body Repair Workers/Updated (Nano) Materials	Automotive Specialty Technicians	4.6%	133
Bus Drivers	Bus Drivers, Transit and Intercity	11.0%	12
Bus System Operators	Transportation Managers	5.0%	25
Cryogenic Transport Truck Drivers	Truck Drivers, Heavy and Tractor-Trailer	3.0%	246
Diesel Retrofit Designers	Mechanical Engineers	-9.4%	14
Diesel Retrofit Installers	Automotive Specialty Technicians	4.6%	133
Dispatchers	Dispatchers, Except Police, Fire, and Ambulance	-1.1%	20
Electric Shipyard Operators	Transportation Managers	5.0%	25
Electric Vehicle Electricians	Automotive Specialty Technicians	4.6%	133
Emissions Testing and Repair Technicians	Transportation Vehicle, Equipment and Systems Inspectors, Except Aviation	4.9%	2
Fuel Retrofitting/Conversion Technicians	Automotive Specialty Technicians	4.6%	133
Fuel-Efficient/Low-Emission Automobile Designers	Mechanical Engineers	-9.4%	14
Industrial Truck Drivers	Industrial Truck and Tractor Operators	-1.9%	82
Locomotive Engineers	Locomotive Engineers	12.4%	4
Rail Track Layers	Rail-Track Laying and Maintenance Equipment Operators	7.9%	4

Table 9 cont.

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings			
Railroad Conductors	Railroad Conductors and Yardmasters	12.6%	4
Senior Automotive Power Electronics Engineers	Electronics Engineers, Except Computer	-25.7%	4
Train System Operators	Transportation Managers	5.0%	25
Transportation, Warehousing, and Logistics Technicians	Shipping, Receiving, and Traffic Clerks	-0.9%	63
Truck Drivers, Heavy and Tractor Trailer	Truck Drivers, Heavy and Tractor-Trailer	3.0%	246
Boiler Technicians	Stationary Engineers and Boiler Operators	-18.9%	9
Boilermakers	Boilermakers	12.1%	3
Building and Facilities Managers	General and Operations Managers	-4.7%	209
Building Control Operators	Maintenance and Repair Workers, General	3.4%	31
Building Maintenance Engineers	Maintenance and Repair Workers, General	3.4%	31
Driver Retraining Instructors	Training and Development Specialists	10.5%	30
Electrical Power Line Installers and Repairers	Electrical Power-Line Installers and Repairers	9.2%	12
Energy Efficiency Finance Managers	Financial Analysts	10.3%	4
Ground Water/Heat Pump Contractors or Installers	Heating and Air Conditioning Mechanics and Installers	7.8%	49
Heating Engineers	Mechanical Engineers	-9.4%	14
Heating/Air Conditioning Installers	Heating and Air Conditioning Mechanics and Installers	7.8%	49
HVAC Engineers	Mechanical Engineers	-9.4%	14
HVAC Operations and Maintenance Technicians	Heating and Air Conditioning Mechanics and Installers	7.8%	49
HVAC Sensor and Digital Control Designers (Servomechanism)	Mechanical Engineers	-9.4%	14
Insulation Installers	Insulation Workers, Floor, Ceiling, and Wall	5.8%	3
Insulation Workers	Insulation Workers, Floor, Ceiling, and Wall	5.8%	3
Refrigeration Engineers	Refrigeration Mechanics and Installers	7.8%	49
Senior HVAC Engineers	Mechanical Engineers	-9.4%	14
Smart Grid Engineers	Electrical Engineers	-10.0%	6
Vehicle Inspectors	Transportation Vehicle, Equipment and Systems Inspectors, Except Aviation	4.9%	2

Table 9 cont.

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings			
Biofuels Plant Construction Workers	Construction Laborers	4.5%	46
Building Inspectors	Construction and Building Inspectors	11.8%	10
Cement Masons	Cement Masons and Concrete Finishers	6.9%	25
Civil Engineers	Civil Engineers	6.2%	26
Commercial Green Building and Retrofit Architects	Architects, Except Landscape and Naval	5.7%	13
Construction Equipment Operators	Operating Engineers and Other Construction Equipment Operators	6.1%	53
Construction Laborer	Construction Laborers	4.5%	46
Construction Laborers	Construction Laborers	4.5%	46
Construction Managers	Construction Managers	3.7%	35
Cool Roofing Installers	Roofers	11.1%	16
Electricians	Electricians	1.1%	89
Energy Efficient Site Foremen	Construction Managers	3.7%	35
Energy Infrastructure Engineers	Civil Engineers	6.2%	26
Environmental Construction Engineers	Construction Managers	3.7%	35
Environmental Maintenance Workers	Maintenance and Repair Workers, General	3.4%	31
Equipment Operator/Controls Operators	Power Plant Operators	10.3%	21
Green Building Architects	Architects, Except Landscape and Naval	5.7%	13
Green Building Design Specialists	Architects, Except Landscape and Naval	5.7%	13
Green Building Designers (commercial and residential)	Architects, Except Landscape and Naval	5.7%	13
Green Material Construction Trade Instructors*	Training and Development Specialists	10.5%	30
Green Material Value-Added Assessors*	Financial Analysts	10.3%	4
Green Plumbers and Pipefitters	Pipe Fitters and Steamfitters	2.3%	67
Green Plumbers and Pipefitters	Plumbers	2.3%	67
Ground Water/Heat Pump Contractors or Installers	Heating and Air Conditioning Mechanics and Installers	7.8%	49
Hazardous Materials Handlers	Hazardous Materials Removal Workers	-1.0%	5
Heating Engineers	Mechanical Engineers	-9.4%	14

Table 9 cont.

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings			
Heating/Air Conditioning Installers	Heating and Air Conditioning Mechanics and Installers		
HVAC Engineers	Mechanical Engineers	7.8%	49
HVAC Sensor and Digital Control Designers (Servomechanism)	Mechanical Engineers	-9.4%	14
Hydro-electric Plant Structural Engineers	Civil Engineers	-9.4%	14
Industrial Green Systems and Retrofit Designers	Mechanical Engineers	6.2%	26
Industrial Truck Drivers	Industrial Truck and Tractor Operators	-9.4%	14
Infrastructure/Construction Technicians	Construction and Building Inspectors	-1.9%	82
Installation Helpers	Helpers--Installation, Maintenance, and Repair Workers	11.8%	10
Insulation Installers	Insulation Workers, Floor, Ceiling, and Wall	8.6%	18
Insulation Workers	Insulation Workers, Floor, Ceiling, and Wall	5.8%	3
Iron and Steel Workers	Structural Iron and Steel Workers	5.8%	3
Laborers	Laborers and Freight, Stock, and Material Movers, Hand	0.0%	12
Metal Fabricators	Structural Metal Fabricators and Fitters	-2.4%	274
Nuclear Plant Construction Workers	Construction Laborers	4.6%	15
Operating Engineers	Operating Engineers and Other Construction Equipment Operators	4.5%	46
Plumbers, Pipefitters and Steamfitters	Pipe Fitters and Steamfitters	6.1%	53
Plumbers, Pipefitters and Steamfitters	Plumbers	2.3%	67
Program Managers - Environmental Construction	Construction Managers	2.3%	67
Refrigeration Engineers	Refrigeration Mechanics and Installers	3.7%	35
Residential Green Building and Retrofit Architects	Architects, Except Landscape and Naval	7.8%	49
Roofers	Roofers	5.7%	13
Senior HVAC Engineers	Mechanical Engineers	11.1%	16
Sheet Metal Workers	Sheet Metal Workers	-9.4%	14
Site Supervising Technical Operators	Construction Managers	7.2%	40
Solar Commercial Installation Electrician Foremen	Construction Managers	3.7%	35
		3.7%	35

Table 9 cont.

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings			
Solar Installation Manager/Project Foremen	Construction Managers	3.7%	35
Structural Design Engineers	Civil Engineers	6.2%	26
Sustainable Communities Designers	Urban and Regional Planners	9.7%	11
Sustainable Landscape Architects	Landscape Architects	5.2%	3
Wastewater Plant Civil Engineers	Civil Engineers	6.2%	26
Water Purification Systems Service Technicians	Maintenance and Repair Workers, General	3.4%	31
Water Systems Designers and Engineers	Civil Engineers	6.2%	26
Weatherization Operations Managers	Construction Managers	3.7%	35
Welders	Welders, Cutters, and Welder Fitters	7.4%	49
Welders, Cutters, Solderers & Brazers	Welders, Cutters, and Welder Fitters	7.4%	49
Wind Farm Electrical Systems Designers	Electrical Engineers	-10.0%	6
Carbon Capture Power Plant Installation, Operations, Engineering and Management Staff - General	Power Plant Operators	10.3%	21
Carbon Sequestration Plant Installation, Operations, Engineering and Management Staff - General	Power Plant Operators	10.3%	21
Alternative Financing Specialists/Government Incentives	Financial Analysts	10.3%	4
Chemical Engineers	Chemical Engineers	-17.2%	5
Chemists	Chemists	9.3%	7
Civil Engineers	Civil Engineers	6.2%	26
Computer Software Engineers	Computer Software Engineers, Systems Software	10.7%	8
Customer Service Representatives	Customer Service Representatives	16.4%	359
Driver Retraining Instructors	Training and Development Specialists	10.5%	30
Electrical and Electronics Repairers, Commercial and Industrial Equipment	Electrical and Electronics Repairers, Commercial and Industrial Equipment	-19.4%	15
Electrical Engineers	Electrical Engineers	-10.0%	6
Energy Efficiency Finance Managers	Financial Analysts	10.3%	4
Engineering Geologists	Geoscientists, Except Hydrologists and Geographers	1.3%	4
Environmental Communications Specialists	Public Relations Specialists	6.9%	15

Table 9 cont.

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings			
Environmental Conflict Managers	Arbitrators, Mediators, and Conciliators	2.2%	1
Environmental Engineering Managers	Engineering Managers	-2.0%	14
Environmental Health, Safety and Engineering Managers	Industrial Safety and Health Engineers	2.9%	3
Environmental Journalists	Reporters and Correspondents	1.7%	12
Fuel-Efficient/Low-Emission Automobile Designers	Mechanical Engineers	-9.4%	14
Geologists and Hydrogeologists	Geoscientists, Except Hydrologists and Geographers	1.3%	4
Geology Technicians	Geophysical Data Technicians	0.0%	1
Geology Technicians	Geological Sample Test Technicians	0.0%	1
Green Building Materials Designers	Architects, Except Landscape and Naval	5.7%	13
Green Jobs Trainers	Training and Development Specialists	10.5%	30
Green Material Construction Trade Instructors*	Training and Development Specialists	10.5%	30
Green Material Value-Added Assessors	Financial Analysts	10.3%	4
Hydrogeologists and Hydrologists	Hydrologists	15.5%	5
Industrial Engineers	Industrial Engineers	11.3%	22
Material Scientists	Materials Scientists	27.8%	2
Product Designers	Commercial and Industrial Designers	4.6%	5
Renewable Energy System Finance Specialists	Financial Analysts	10.3%	4
Residential/Commercial Solar Sales Consultants	Manufacturing, Technical and Scientific Products	3.6%	20
Safety Investigators/Cause Analysts	Occupational Health and Safety Specialists	-1.7%	4
Sales and Marketing Staff for Sustainable Products	Marketing Managers	7.3%	17
Sales representatives (utility and private)	Manufacturing, Technical and Scientific Products	3.6%	20
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific products	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	3.6%	20
Senior Automotive Power Electronics Engineers	Electronics Engineers, Except Computer	-25.7%	4
Socially Responsible Investment Advisers	Personal Financial Advisors	10.1%	13
Solar Sales Representatives/Estimators	Manufacturing, Technical and Scientific Products	3.6%	20
Sustainability Communicators	Public Relations Specialists	6.9%	15

Table 9 cont.

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings			
Sustainability Purchasing Agents	Wholesale and Retail Buyers, Except Farm Products	-2.1%	12
Sustainable Communities Designers	Urban and Regional Planners	9.7%	11
Sustainable Development Policy Analysts	Urban and Regional Planners	9.7%	11
Transportation, Warehousing, and Logistics Technicians	Shipping, Receiving, and Traffic Clerks	-0.9%	63
Urban Renewal Managers	Urban and Regional Planners	9.7%	11
Welders, Cutters, Solderers & Brazers	Solderers and Brazers	7.4%	49
Air Pollution Specialists	Environmental Engineering Technicians	9.3%	6
Biologists - Marine/Fisheries	Zoologists and Wildlife Biologists	0.0%	4
Conservation of Resources Commissioners	Soil and Water Conservationists	-1.2%	3
Conservation Policy Analysts and Advocates	Soil and Water Conservationists	-1.2%	3
Environment Friendly Landscape Designers	Landscape Architects	5.2%	3
Environmental Communications Specialists	Public Relations Specialists	6.9%	15
Environmental Construction Engineers	Construction Managers	3.7%	35
Environmental Engineering Managers	Engineering Managers	-2.0%	14
Environmental Engineers	Environmental Engineers	9.7%	16
Environmental Journalists	Reporters and Correspondents	1.7%	12
Environmental Maintenance Workers	Maintenance and Repair Workers, General	3.4%	31
Environmental Planners	Soil and Water Conservationists	-1.2%	3
Environmental Sampling Technicians	Environmental Science and Protection Technicians, Including Health	9.6%	10
Environmental Scientists	Health	8.9%	24
Environmental Technicians	Environmental Engineering Technicians	9.3%	6
Forestry and Wildlife Managers	Fish and Game Wardens	0.7%	3
Forestry Supervisors	First-Line Supervisors/Managers of Logging Workers	3.8%	8
Geologists and Hydrogeologists	Geoscientists, Except Hydrologists and Geographers	1.3%	4
Hazardous Materials Removal Workers	Hazardous Materials Removal Workers	-1.0%	5

Table 9 cont.

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings			
Hazardous Waste Management Specialists	Environmental Engineers	9.7%	16
Hydrogeologists and Hydrologists	Hydrologists	15.5%	5
Natural Resources Managers	Natural Sciences Managers	7.5%	5
Restoration Ecologists	Soil and Water Conservationists	-1.2%	3
Senior Environmental Consultants	Environmental Engineers	9.7%	16
Soil Conservation Technicians	Forest and Conservation Technicians	-4.7%	2
Soil Conservationists	Soil and Water Conservationists	-1.2%	3
Water Pollution Control Technicians	Environmental Engineering Technicians	9.3%	6
Wildlife Biologists	Zoologists and Wildlife Biologists	0.0%	4
Agricultural and Forestry Supervisors	First-Line Supervisors/Managers of Agricultural Crop and Horticultural Workers		
		3.8%	8
Agricultural Inspectors	Agricultural Inspectors	12.2%	3
Environment Friendly Landscape Designers	Landscape Architects	5.2%	3
Farm Product Purchasers	Purchasing Agents and Buyers, Farm Products	1.4%	3
Food Product Inspectors	Agricultural Inspectors	12.2%	3
Indoor and Outdoor Landscape Architects	Landscape Architects	5.2%	3
Landscape and Urban Gardening Specialists	Agricultural Technicians	-2.7%	1
Permaculture Designers/Contractors	Agricultural Technicians	-2.7%	1
Solid Waste (Energy) Engineers/Managers	General and Operations Managers	-4.7%	209
Sustainable Agriculture Specialists	Agricultural Technicians	-2.7%	1
Sustainable Landscape Architects	Landscape Architects	5.2%	3
Chemical Equipment Operators and Tenders	Chemical Equipment Operators and Tenders	-1.8%	5
Chemical Technicians	Chemical Technicians	-7.2%	6
Chemists	Chemists	9.3%	7
CNC Operators	Computer-Controlled Machine Tool Operators, Metal and Plastic	6.4%	12
Cutting, Punching and Press Machine Operators	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	-14.3%	11

Table 9 cont.

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings				
Drilling & Boring Operators	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	-21.6%	2	
Electrical and Electronics Repairers, Commercial and Industrial Equipment	Electrical and Electronics Repairers, Commercial and Industrial Equipment	-19.4%	15	
Electrical Equipment Assemblers	Electrical and Electronic Equipment Assemblers	-45.8%	12	
Electrical Equipment Technicians	Electronics Engineering Technicians	-19.6%	9	
Engine Assemblers	Engine and Other Machine Assemblers	-45.0%	1	
Environmental Health, Safety and Engineering Managers	Industrial Safety and Health Engineers	2.9%	3	
Ethanol Maintenance Mechanics	Maintenance and Repair Workers, General	3.4%	31	
First-Line Production Supervisors	First-Line Supervisors/Managers of Production and Operating Workers	-3.8%	65	
Fuel Testing/Verification Technicians	Inspectors, Testers, Sorters, Samplers, and Weighers	-14.4%	26	
Green Building/Recyclable Materials Distributors	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	3.6%	20	
Hydro-electric Component Machinists	Machinists	4.0%	35	
Industrial Machinery Mechanics	Industrial Machinery Mechanics	7.4%	25	
Industrial Production Managers	Industrial Production Managers	-11.7%	24	
Iron and Steel Workers	Structural Iron and Steel Workers	0.0%	12	
Laborers	Laborers and Freight, Stock, and Material Movers, Hand	-2.4%	274	
Laborers and Freight, Stock and Material Handlers	Laborers and Freight, Stock, and Material Movers, Hand	-2.4%	274	
Machinists	Machinists	4.0%	35	
Material Scientists	Materials Scientists	27.8%	2	
Metal Fabricators	Structural Metal Fabricators and Fitters	4.6%	15	
Millwrights	Millwrights	-12.3%	11	
Mixing and Blending Machine Operators	Mixing and Blending Machine Setters, Operators, and Tenders	-9.3%	7	

Table 9 cont.

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings			
Plant Maintenance Supervising Technical Operators	First-Line Supervisors/Managers of Mechanics, Installers, and Repairers	0.2%	60
Plant Safety Engineers	Industrial Safety and Health Engineers	2.9%	3
Plant Technical Specialists - Safety Equipment Testing	Occupational Health and Safety Technicians	7.0%	1
Product Designers	Commercial and Industrial Designers	4.6%	5
Production, Planning and Expediting Clerks	Production, Planning, and Expediting Clerks	-0.6%	35
PV Fabrication and Testing Technicians	Electro-Mechanical Technicians	-38.7%	5
Safety Investigators/Cause Analysts	Occupational Health and Safety Specialists	-1.7%	4
Separating and Filtering Operators	Separating, Filtering, Clarifying, Precipitating and Still Machine Setters, Operators, and Tenders	-12.4%	11
Sheet Metal Workers	Sheet Metal Workers	7.2%	40
Shipping, receiving and traffic clerks	Shipping, Receiving, and Traffic Clerks	-0.9%	63
Solar Hot Water Heater Manufacturing Technicians	Industrial Engineering Technicians	5.5%	9
Solar Lab Technicians	Electrical Engineering Technicians	-19.6%	9
Team Assemblers	Team Assemblers	-6.8%	82
Welders	Welders, Cutters, and Welder Fitters	7.4%	49
Welders, Cutters, Solderers & Brazers	Welders, Cutters, and Welder Fitters	7.4%	49
Welders, Cutters, Solderers & Brazers	Solderers and Brazers	7.4%	49
Wind Turbine Machinists	Machinists	4.0%	35
Wind Turbine Sheet Metal Workers	Sheet Metal Workers	7.2%	40
Hazardous Materials Handlers	Hazardous Materials Removal Workers	-1.0%	5
Recycling Collections Drivers	Refuse and Recyclable Material Collectors	1.0%	37
Agricultural Inspectors	Agricultural Inspectors	12.2%	3
Alternative Financing Specialists/Government Incentives	Financial Analysts	10.3%	4
Building Inspectors	Construction and Building Inspectors	11.8%	10
Code Inspectors (municipal, county and state)	Construction and Building Inspectors	11.8%	10
Conservation of Resources Commissioners	Soil and Water Conservationists	-1.2%	3
Conservation Policy Analysts and Advocates	Soil and Water Conservationists	-1.2%	3

Table 9 cont.

Green Occupations Matched to Standard Occupational Classification Under Which Data is Collected in Maine With Projected Employment Change and Annual Job Openings			
Environmental Conflict Managers	Arbitrators, Mediators, and Conciliators	2.2%	1
Food Product Inspectors	Agricultural Inspectors	12.2%	3
Fuel Testing/Verification Technicians	Inspectors, Testers, Sorters, Samplers, and Weighers	-14.4%	26
Hazardous Waste Management Specialists	Environmental Engineers	9.7%	16
Permit Specialists	Construction and Building Inspectors	11.8%	10
Sustainable Development Policy Analysts	Urban and Regional Planners	9.7%	11
Urban Planners	Urban and Regional Planners	9.7%	11
Urban Renewal Managers	Urban and Regional Planners	9.7%	11
Vehicle Inspectors	Transportation Vehicle, Equipment and Systems Inspectors, Except Aviation	4.9%	2