



# Washington Labor Market Quarterly Review

Volume 34, Number 3

July - September 2010

## INDICATORS

### UNEMPLOYMENT RATE

#### Washington

##### (Seasonally Adjusted)

July 2010	8.9%
August 2010	9.0%
September 2010 (prel)	9.0%

#### United States

##### (Seasonally Adjusted)

July 2010	9.5%
August 2010	9.6%
September 2010 (prel)	9.6%

### NONAGRICULTURAL EMPLOYMENT

#### Washington (Seasonally Adjusted)

July 2010	2,786,800
August 2010	2,784,600
September 2010 (prel)	2,780,000

#### Over the Year Change

July 2009-2010	-1.1%
August 2009-2010	-0.7%
September 2009-2010 (prel)	-0.6%

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## A Local-Level Look at Washington's Green Economy

By Chris Thomas, Economist

### Introduction

The type and nature of green jobs vary from area to area across Washington state just as the type and nature of industries vary from region to region. To better understand the Washington state green economy, it is important to understand the regional differences underlying it. In 2009, a state study of green jobs found evidence of marked differences in industry employment in different regions of the state. This article takes a deeper look at some of these regional differences. The goal is to provide information that can assist regional efforts to understand how best to develop local green economies.

This article looks at regional green jobs for Washington state using information gathered by the 2009 green jobs survey and current data from other Employment Security Department sources. Covered topics include the regional differences that make up the green economy, particularly the differences between urban and rural green jobs, industry sectors, occupational groups, green jobs in demand, public and private green jobs, and green jobs skills.

### Background: Results from the 2009 Green Jobs Survey

In 2009, Washington state conducted a survey of employers to identify the number and type of green jobs within the state. A total of more than 13,000 employers responded to the survey. In the survey, employers were asked the number of employees and in what occupations did those employees directly engage in work in at least one of the four green-economy core areas:

- Increasing energy efficiency
- Producing renewable energy
- Preventing and reducing environmental pollution
- Providing mitigation or cleanup of environmental pollution

Some examples of green-economy core areas would include window retrofitting and insulation installation in construction for increasing energy efficiency, wind turbine maintenance or manufacturing for producing renewable energy, organic farming for preventing and reducing environmental pollution, and hazardous waste cleanup for providing mitigation or cleanup of environmental pollution.

Statewide, there were an estimated 99,319 total green jobs. An estimated 76,137 green jobs were in the private sector and 23,182 were in the public sector. Green jobs represented 3.3 percent of all jobs in Washington state.

## Green Jobs by Geographic Area

In order to better understand the green economy it is important to know how green jobs differ across the state.

The green jobs survey collected statewide green jobs data by the twelve geographic areas designated as Workforce Development Areas (WDA). WDAs are administrative geographic areas used to distribute labor market information and employment services. These areas can be a group of counties, typically sparsely populated rural regions, or may represent a single county, as is the case for most urban areas. *Figure 1* shows the percentage of green jobs as a percent of total employment by region.

## Urban and Rural Green Jobs

Within each WDA there are urban and rural areas that can differ considerably in the number and type of green jobs. In general, urban areas with large population centers have more green jobs than rural areas. However, rural areas often have higher proportion of green jobs when compared to total employment in that region. For instance, urban areas such as Seattle-King County WDA had the most green jobs overall. However, when comparing green jobs to total employment, the rural areas had a higher percentage of green jobs. For example, 2.7 percent of Pierce County WDA employment was green, whereas the North Central Washington WDA had a higher rate of 6.1 percent.

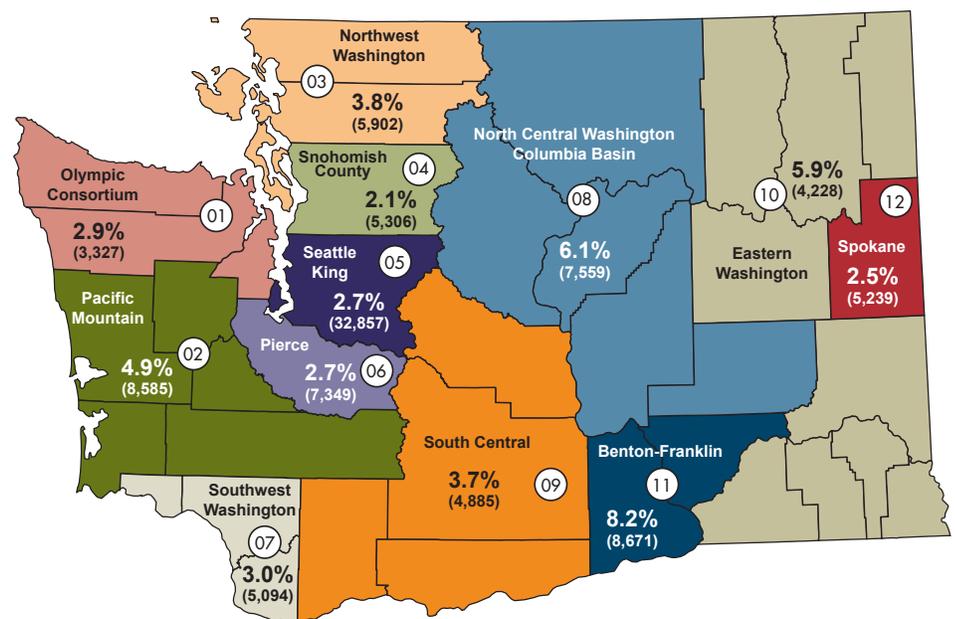
The differences in green jobs between urban and rural areas also vary by industry type and degree of industry concentration. Urban

areas tend to have more energy efficiency green jobs, which are typically found in construction industries. Rural areas tend to have more green jobs related to preventing and reducing environmental pollution than urban areas because there are more agriculture-related occupations and industries.

Among all 12 WDAs, green jobs made up the smallest percentage of all jobs in Snohomish County WDA, with green jobs at 2.1 percent of all employment there. Green jobs made up 8.2 percent of total employment in the Benton-Franklin WDA, the area with the highest proportional green job employment. Much of this was likely related to mitigation and clean-up work at the Hanford Nuclear Reservation, as well as some agriculture-related jobs in preventing and reducing environmental pollution (*Table 1*). North Central Washington WDA had the second highest

Figure 1. Green Jobs as a Percent of Total Employment by Workforce Development Area (WDA)

Source: Washington State 2009 Green Jobs Survey



percentage of green jobs at 6.1 percent, mostly in agriculture-related green jobs preventing and reducing environmental pollution. Seattle-King County WDA reported 2.7 percent of all jobs as green, with a total of 32,857 green jobs. Seattle-King County WDA has about 33.1 percent of all green jobs in the state, more than any other region.

Table 1 shows the distribution of green jobs and green jobs as a percent of total employment by WDA.

Seattle-King County WDA had the highest number of green jobs and the most jobs in all green-economy core areas as well. When looking at green jobs by core area and location, increasing energy efficiency in Seattle-King County WDA was the most common (15,500 green jobs). Benton-Franklin WDA

had a high number of jobs in producing renewable energy and mitigation or cleanup of environmental pollution and the Pacific Mountain WDA had a large number of jobs in increasing energy efficiency.

### Green Jobs by Area and Industry

The six industries that made up the majority of green jobs vary substantially by area. By looking at the concentration of these industries, one can get a better idea of the nature of green economy across the state.

The top six industries account for 91 percent of all reported green jobs. These include construction (29,410 green jobs); public administration (23,182); agriculture (12,027); professional services (10,914); administrative,

support, and waste management (9,414); and manufacturing (5,739). In almost every WDA, construction and public administration had the highest number of green jobs (Table 2).

### Top Green Job Industries by WDA

1. **Construction:** Snohomish WDA had the highest percent of employment of construction green jobs at 45 percent (2,390 jobs) of all the green jobs in that region.
2. **Public administration:** After Seattle-King County WDA, the Pacific Mountain WDA (which includes the state capital) had the second highest number of green jobs in public administration with 4,898 government green jobs. Public administration

Table 1. Private- and Public-Sector Positions by Core Area and Workforce Development Area (WDA)

Source: Washington State Green Jobs Survey, Employment Security Department, Labor Market and Economic Analysis, 2009

Workforce Development Area	Increasing Energy Efficiency		Producing Renewable Energy		Preventing and Reducing Pollution		Providing Mitigation or Cleanup of Environmental Pollution	
	Total Green Positions	Percent of all Areas	Total Green Positions	Percent of all Areas	Total Green Positions	Percent of all Areas	Total Green Positions	Percent of all Areas
Olympic Consortium	1,370	3.5%	64	1.9%	1,666	3.6%	242	2.1%
Pacific Mountain	3,111	8.0%	227	6.5%	4,171	9.1%	1,136	9.8%
Northwest WA	2,585	6.6%	207	6.0%	2,739	6.0%	429	3.7%
Snohomish County	2,677	6.9%	126	3.6%	2,189	4.8%	464	4.0%
Seattle-King County	15,500	39.9%	972	28.1%	13,484	29.5%	3,091	26.8%
Pierce County	2,707	7.0%	105	3.0%	3,671	8.0%	939	8.1%
Southwest WA	2,289	5.9%	234	6.8%	2,100	4.6%	615	5.3%
North Central WA	850	2.2%	39	1.1%	6,207	13.6%	641	5.5%
South Central	1,247	3.2%	450	13.0%	3,053	6.7%	265	2.3%
Eastern WA	2,197	5.6%	98	2.8%	1,846	4.0%	150	1.3%
Benton-Franklin	1,703	4.4%	624	18.0%	2,922	6.4%	2,936	25.4%
Spokane	2,656	6.8%	317	9.2%	1,704	3.7%	642	5.6%
<b>Total by Core Area</b>	<b>38,893</b>	<b>100.0%</b>	<b>3,464</b>	<b>100.0%</b>	<b>45,753</b>	<b>100.0%</b>	<b>11,552</b>	<b>100.0%</b>

includes all green public jobs at the federal, state, and local level<sup>1</sup>. Many of the green public occupations reported in this area related to architectural and engineering and life, physical, and social science occupations.

3. **Agriculture:** The third largest green industry is agriculture with 12,027 jobs. North Central Washington WDA reported that 72.2 percent of its green employment was in agriculture and had the highest agricultural percentage of total green jobs. These jobs are often related to organic and sustainable farming practices.
4. **Professional services:** Professional services, the fourth largest green industry, com-

prised 23.4 percent of the green employment in Benton-Franklin WDA. This region had the highest percent of green jobs compared to all employment, with many of the workers involved in the clean-up operations at the Hanford Nuclear Reservation.

5. **Administrative support and waste management:** Benton-Franklin WDA also had the highest percent of green jobs in the industry of administrative support and waste management at 27.4 percent (2,378 jobs).
6. **Manufacturing:** While Seattle-King County WDA had the highest number of green manufacturing jobs, the Eastern Washington WDA had the highest percent of green jobs in manufacturing at 32.7 percent (1,384 jobs). Many of these occupations were in

the architectural and engineering occupations, and the installation, maintenance, and repair occupational groups. Two occupations specific to manufacturing were electrical engineers and electrical power line installers.

Table 2 shows the break out of all the 99,319 estimated green jobs by every major industry sector that reported green employment in 2009.

## Major Occupational Groups by Area

Just as areas have different industry concentrations, they also have different occupational concentrations. Occupational groups provide another picture of how green jobs differ across the state.

Table 3 displays the estimated number of green jobs by major occupational groups for each of the WDAs.

<sup>1</sup> 2009 E2SHB 2227 directed that Employment Security Department begin collecting public sector green jobs as well as private sector green jobs. It was the first year public green jobs were included in the green jobs survey.

Table 2. Green Jobs by Workforce Development Area and Industry Sector

Source: Washington State Green Jobs Survey, Employment Security Department, Labor Market and Economic Analysis, 2009

Industry	Olympic	Pacific	Northwest	Snohomish	Seattle-King	Pierce	Southwest	North Central	South Central	Eastern	Benton-Franklin	Spokane	Other*	Total
Agriculture	86	413	613	162	234	84	180	5,455	2,044	1,095	1,598	63	-	12,027
Utilities	33	99	29	8	182	42	5	1	23	36	1	1	-	461
Construction	1,329	1,496	2,506	2,390	11,432	2,430	1,902	577	824	691	1,489	2,072	272	29,410
Manufacturing	56	336	231	537	1,923	426	435	72	93	1,384	30	216	0	5,739
Wholesale Trade	28	387	163	211	2,254	516	315	54	126	22	69	308	41	4,494
Retail Trade	4	2	-	16	84	17	-	-	1	-	-	1	-	125
Transportation & Ware.	37	150	201	16	434	96	190	53	232	37	134	128	2	1,708
Information	17	29	-	4	96	21	4	-	5	3	-	184	-	363
Finance & Insurance	0	0	1	0	13	4	0	0	0	0	0	0	0	19
Real Estate, Rental & Leasing	1	-	-	12	11	6	14	-	1	-	-	-	-	46
Professional Services	371	178	363	468	5,464	596	288	101	236	158	2,027	661	2	10,914
Admin. Spprt, & Waste Mgmt.	210	438	515	816	2,511	1,128	622	101	100	51	2,378	543	-	9,414
Other Services (except PA)	78	158	102	47	212	353	133	77	50	37	66	107	-	1,419
Public Administration	1,078	4,898	1,179	619	8,006	1,630	1,005	1,070	1,150	713	881	955	-	23,182
Area Totals	3,327	8,585	5,902	5,306	32,857	7,349	5,094	7,559	4,885	4,228	8,671	5,239	317	99,319

\* This primarily consists of firms with green jobs in more than one area.

Table 3. Occupation Groups by Workforce Development Area, Private Sector

Source: Washington State Green Jobs Survey, Employment Security Department, Labor Market and Economic Analysis, 2009

Occupational Group	Olympic	Pacific	Northwest	Snohomish	Seattle-King	Pierce	Southwest	North Central	South Central	Eastern	Benton-Franklin	Spokane	Other*	Total
Management	268	590	308	218	1,626	229	291	516	325	229	585	184	1	5,370
Business & Fin. Oper.	10	53	18	5	237	24	6	3	14	2	13	9	1	395
Computer & Math.	90	207	43	104	302	63	45	14	27	48	15	114	3	1,075
Architecture & Engineering	537	1,708	651	743	6,191	710	677	323	594	830	2,982	1,195	82	17,223
Life, Physical, & Social Sc.	252	1,662	309	243	2,456	154	440	310	391	264	495	296	64	7,336
Community & Social Ser.	2	31	9	0	20	0	1	5	16	1	2	5	-	92
Education, Training, & Library	3	4	4	2	-	8	4	-	4	1	2	-	-	34
Arts, Design, Enter. & Media	14	10	3	48	367	57	7	6	21	4	139	263	0	938
Health Care Practitioners & Tech.	0	1	3	32	257	12	6	0	25	2	430	1	9	780
Protective Service	12	135	13	6	727	4	23	25	15	28	4	25	-	1,015
Building & Grounds Maint.	69	126	103	369	563	430	73	51	28	29	28	76	-	1,945
Personal Care & Ser.	-	-	-	-	-	-	-	-	-	-	2	-	-	2
Sales & Related	1	-	-	-	2	3	6	-	1	-	1	-	-	14
Office & Admin. Support	2	18	4	3	64	12	16	4	0	6	-	7	0	134
Farming, Fishing, & Forestry	31	252	539	172	296	55	127	4,753	1,346	929	1,194	60	-	9,753
Construction & Extraction	1,160	1,625	2,309	1,984	8,924	2,519	1,700	783	796	591	1,487	1,342	128	25,346
Installation, Maint.& Repair	182	492	409	422	3,068	999	586	201	243	927	660	958	2	9,149
Production	221	449	275	437	2,131	563	579	114	173	161	197	286	9	5,595
Trans. & Material Moving	473	1,222	903	519	5,626	1,509	510	448	864	178	434	417	18	13,121
<b>Area Totals</b>	<b>3,327</b>	<b>8,585</b>	<b>5,902</b>	<b>5,306</b>	<b>32,857</b>	<b>7,349</b>	<b>5,094</b>	<b>7,559</b>	<b>4,885</b>	<b>4,228</b>	<b>8,671</b>	<b>5,239</b>	<b>317</b>	<b>99,319</b>

\* This primarily consists of firms with green jobs in more than one area.

Due to coding error, WDA totals may not add up to occupational group totals.

Eight major occupational groups represent 94 percent of the estimated green employment. These include the occupations of management; architecture and engineering; life, physical, and social science; farming, fishing, and agriculture; construction and extraction; installation, maintenance, and repair; production; and transportation and material moving. Seattle-King County WDA had the most green jobs in seven of the top eight major occupational groups. The only major occupational group where Seattle-King County WDA did not have the most green jobs out of the eight is farming, fishing, and agriculture. North Central Washington WDA had the highest

number of green farming, fishing, and agriculture jobs at 4,753.

This is how the major occupational groups are concentrated across different WDAs:

- **Management** occupations were evenly spread across each WDA, with the Pacific Mountain WDA posting the highest percent (6.9). This occupational group included a high number of general operations managers found across many industries as well as farm, ranch, and other agricultural managers (including greenhouse and nursery managers).
- **Architecture and Engineering** occupations accounted for

2,982 green jobs (34.4 percent) in the Benton-Franklin WDA and included a large number of environmental engineers, nuclear engineers, and mechanical engineers, many employed in the professional services industry. These occupations represented highly skilled and technical workers involved in work related to the Hanford Nuclear Reservation.

- **Life, Physical, and Social Science** occupations – with 1,662 jobs in the Pacific Mountain WDA – were largely comprised of a large number of environmental scientists; urban and regional planners; and fish and

forest conservation technicians occupations. These occupational concentrations were due to government employment in the state capital of Olympia.

- **Farming, Fishing, and Agriculture** occupations made up 62.9 percent of green jobs in the North Central Washington WDA, showing the high concentration of workers employed in the organic fruit industry. Examples of this include “agricultural workers, all other” and “farmworkers and laborers.”
- **Construction and Extraction** occupations made up 39.1 percent of the green jobs (2,309) in the Northwest Washington WDA. These occupational groups were represented by occupations such as electricians, carpenters, and plumbers and pipefitters. They were typically employed across the construction industry in green building and weatherization work.
- **Installation, Maintenance, and Repair** occupations provided 927 green jobs, accounting for 21.9 percent of Eastern Washington WDA total green jobs. Two prominent occupations in this group were electrical power line installer and heating, air conditioning, and refrigeration and mechanic installers.
- **Production** occupations made up 11.4 percent of Southwest Washington WDA green employment. The Southwest Washington WDA production occupational group was

represented by cabinetmakers and production workers, all other and other green employment in local industries related manufacturing.

- **Transportation and Material Moving** occupations comprised 20.5 percent (1,509) of Pierce County WDA green jobs. Most of the green occupations in the Pierce County WDA were public occupations related to transit, such as transit bus drivers and school bus drivers.

### *Demand Green Jobs by WDA*

Previous research has suggested that there really is not one green economy with its own set of industries and occupations, but instead the economy as a whole is becoming greener. This is largely driven by consumer demand for more environmentally conscious products and services. To get a better picture of how the economy is getting greener you can look at what green jobs are in demand and how those occupations are changing. This section looks at occupational demand and changes in occupational coding classifications.

Each WDA area has its own industry concentration and needs for different green occupations. Matching the Demand and Decline list<sup>2</sup> of occupations (produced by the Employment Security Department) to the U.S. Department of Labor Green Occupational Information Network code (O\*NET) classifications gives an idea of which green occupations are in demand by area.

Additionally, the O\*NET classification can provide a picture of how much existing occupational skills and tasks are changing to match the “greening” of the economy.

Demand and Decline lists provide current and projected labor market conditions by occupations to assist in determining if training in certain occupations will result in employment. The estimates derive a weight, based on the rank of five different criteria: occupational unemployment ratio, change in UI claims, statewide job vacancies, and placed applicant ratio. These variables are weighted and used to rank all occupations by area to determine if any given occupation is in demand, balanced, or not in demand.

Because green economy activities and technologies may have different effects on different occupations, the National Center for O\*NET development<sup>3</sup> has been looking at the “greening” of occupations. They do this by identifying increased demand for green occupations, green enhanced skills occupations, and new and emerging green occupations.

**Increased demand green occupations** may mean an increased demand for this occupation, but does not entail significant change to work requirements.

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<sup>2</sup> For additional information on the Demand and Decline list, refer to the Employment Security Department’s Workforce Explorer website: [www.workforceexplorer.com/cgi/career/?PAGEID=3](http://www.workforceexplorer.com/cgi/career/?PAGEID=3)

<sup>3</sup> The Occupational Information Network (O\*NET) is being developed under the sponsorship of the U.S. Department of Labor/ Employment and Training Administration (USDOL/ETA) through a grant to the North Carolina Employment Security Commission. For additional information on O\*NET codes, go to [www.onetcenter.org/green.html?p=2](http://www.onetcenter.org/green.html?p=2)

The work context may change but the tasks do not.

**Green enhanced skill occupations** means a significant change in the work requirement of the existing occupation. An example of this would be a change in the credentials required for a position.

**New and emerging green occupations** are new occupations that have come into being as a result of the impact of the green economy activities and technologies. An example of this might be a windmill technician, an occupation that didn't exist for the most part until the wider adoption of windmills for power generation.

*Table 4* ranks the top demand green occupation for each of the twelve WDAs with the occupational title, the educational preparation needed, and the O\*NET green jobs classification.

Most of the top-ranked demand occupations for each WDA require short-term or moderate on-the-job training. In many of these cases the green version of the occupation is primarily the same as the non-green version, but with a change of context or a moderate enhancement of skills. Hazardous material removal workers or refuse and recyclable material collectors were the top occupation for many areas.

The remaining top occupations required college education, most often a bachelor's degree or higher.

Long-term occupational projections show how the green economy may be evolving across Washington state. *Table 5* lists the top 20 occupations ranked by highest projected growth. The

Table 4. Top in Demand O\*Net Green Job Classification by Workforce Development Area

Source: Training Benefits List, Employment Security Department, O\*Net, 2010

Area	Occupational Title	Educational Preparation	O*Net Green Jobs Classification
Olympic Consortium	Refuse and Recyc. Collectors	Short-term OJT	Green Enhanced Skills
Pacific Mountain	Laborers and Material Movers	Short-term OJT	Green Increased Demand
Northwest	Team Assemblers	Moderate OJT	Green Increased Demand
Snohomish County	Urban and Regional Planners	Master's degree	Green Enhanced Skills
Seattle-King County	Haz.Mat. Removal	Moderate OJT	Green Enhanced Skills
Pierce County	Haz.Mat. Removal	Moderate OJT	Green Enhanced Skills
Southwest Washington	Computer Software Engineers	Bachelor's degree	Green Increased Demand
North Central WA	Computer Spec., All Other	Associate's degree	Green New and Emerging
South Central	Refuse and Recyc. Collectors	Short-term OJT	Green Enhanced Skills
Eastern Washington	Electrical Engineers	Bachelor's degree	Green Enhanced Skills
Benton-Franklin	Haz.Mat. Removal	Moderate OJT	Green Enhanced Skills
Spokane	Refuse and Recyc. Collectors	Short-term OJT	Green Enhanced Skills

Table 5. Top Green Demand Occupations by Workforce Development Area and Projected Growth

Source: Training Benefits List, Employment Security Department, O\*Net, 2010

Area	Occupational Title	Educational Preparation	Avg Ann Growth Rate 2008-2018
Pierce Co.	Haz. Mat. Removal Workers	Moderate OJT	5.9%
Spokane	Refuse and Recyc. Collectors	Short-term OJT	4.6%
Spokane	Haz. Mat. Removal Workers	Moderate OJT	4.1%
Spokane	Mixing and Blending Machine Setters	Moderate OJT	3.6%
Seattle-King Co.	Haz. Mat. Removal Workers	Moderate OJT	3.6%
Eastern WA	Electrical Engineers	Bachelor's degree	3.4%
Eastern WA	Separating, Filtering, Machine Setters	Moderate OJT	3.3%
Benton-Franklin	Civil Engineers	Bachelor's degree	3.0%
Benton-Franklin	Geoscientists, Except Hydrologists & Geograp.	Master's degree	3.0%
Olympic Consor.	Computer Software Engineers	Bachelor's degree	2.8%
Northwest WA	Computer-Controlled Machine Tool Oper.	Moderate OJT	2.8%
Benton-Franklin	Enviro. Scientists and Spec. Including Health	Master's degree	2.8%
Seattle-King Co.	Construction and Related Workers, All Other	Moderate OJT	2.7%
Spokane	Customer Service Representatives	Moderate OJT	2.6%
Benton-Franklin	Natural Sciences Managers	Bachelor's & Experc.	2.5%
Southwest WA	Computer Software Engineers	Bachelor's degree	2.5%
Seattle-King Co.	Farm and Home Management Advisors	Bachelor's degree	2.5%
Snohomish Co.	Refuse and Recyc. Collectors	Short-term OJT	2.5%
Northwest WA	Architects, Except Landscape and Naval	Bachelor's degree	2.4%
Northwest WA	Personal Financial Advisors	Bachelor's degree	2.4%

occupations with the highest projected growth were related to hazardous materials removal and recycling. These occupations

were projected to grow the fastest in most urban WDAs. Slightly more than half of the top 20 projected growth occupations only

required moderate to short-term on-the-job training. The remaining top 20 occupations required a bachelor's degree or more.

It is noteworthy that of the top 20 long-term projected growth occupations, most urban WDAs have higher projected growth for lesser-skilled occupations. The more rural or smaller urban areas had the highest projected growth in green occupations with more skills and educational training.

## Help Wanted OnLine

The 2008 and 2009 Washington state green economy jobs research suggested that the economy is becoming greener and that some occupations are responding by changing the way they do existing jobs, or by adding new skills to current jobs. There are also green occupations that are new or that are emerging from existing ones. You can see how the green economy is changing by looking at demand for new and emerging occupations. A tool to see what new occupations that businesses are interested in is the Help Wanted OnLine (HWOL) data series.<sup>4</sup> HWOL provides a database of help wanted ads across the nation.

For comparison purposes one

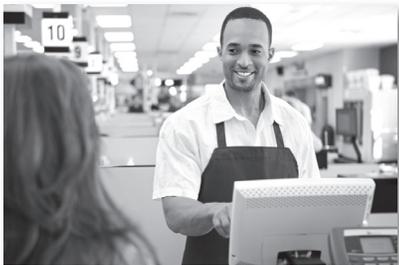


Photo by ©iStock/Sean Locke

<sup>4</sup> For more information on the HWOL data, go to [www.wantedanalytics.com](http://www.wantedanalytics.com)

urban area (Pierce County WDA) and one rural area (North Central WDA) were denoted as representative. *Table 6* shows the top ten occupation titles that are classified as being new and emerging green jobs occupations for these two areas. Both areas have about the same ratio of emerging occu-

pations that are in demand. This would include sales, management, engineering, construction, and business operations related occupations. *Table 6* also shows that many new and emerging occupations are related to finance, solar energy, and environmental engineering occupations.

Table 6. Top New and Emerging Green Occupations, Pierce County and North Central Washington Workforce Development Areas  
September 2009 to September 2010

Source: Employment Security Department, [wantedanalytics.com](http://wantedanalytics.com), 2010

SOC Titles	Green Jobs SOC Title	HWOL*
<b>Pierce County WDA</b>		
Computer Specialists, All Other	Geospatial Infor. Sci. & Technologists*	170
Sales Rep. Services, All Other	Energy Brokers*	103
Securities, Comm. & Fin. Servc Sales	Securities and Commodities Traders*	100
Sales Rep. Wholesale & Manu. Tech. & Sci.	Solar Sales Rep. & Assessors	58
Managers of Construction	Solar Energy Installation Managers	34
Mechanical Engineers	Fuel Cell Engineers*	19
Civil Engineers	Water/Wastewater Engineers	15
Chief Executives	Chief Sustainability Officers	14
Business Oper. Spec., All Other	Sustainability Specialists	13
Advertising & Promotions Managers	Green Marketers	12
<b>North Central WDA</b>		
Securities, Comm. & Fin. Servc. Sales	Securities and Commodities Traders*	18
Sales Rep. Services, All Other	Energy Brokers*	10
Civil Engineers	Water/Wastewater Engineers	7
Computer Spec., All Other	Geospatial Infor. Sci. & Technologists*	6
Mechanical Engineers	Fuel Cell Engineers*	6
Managers of Construction	Solar Energy Installation Managers	6
Sales Rep. Wholesale & Manu. Tech. & Sci.	Solar Sales Rep. & Assessors	6
Business Oper. Spec., All Other	Sustainability Specialists	5
Chief Executives	Chief Sustainability Officers	4
Industrial Production Managers	Methane/Landfill Gas Collection Sys. Oper.	2

\*HWOL does not list how many of the help wanted ads were green; the list was based on new and emerging O\*NET classifications of the data.

Research suggests that the economy is becoming greener and some occupations are responding by changing the way they do existing jobs, or by adding new skills to current jobs.

## Public and Private Green Jobs by Area

Table 7 displays estimated green jobs by public and private employers, showing the number and percent by each WDA.

In 2009, the green jobs survey began to collect data from public sector green jobs in addition to private sector green jobs. These data added an additional understanding as to the nature of the green economy. Of the total of 99,319 green jobs, 23,182 jobs (23.3 percent) were in the public sector, and 76,137 jobs (76.7

percent of the green jobs) were in the private sector. The region that had the highest public sector green employment was the Pacific Mountain WDA with 57.1 percent. The state capital is located in the Pacific Mountain WDA, hence the high concentration of government employment. The area with the highest percent of private green jobs was in the Benton-Franklin WDA with 89.8 percent. This suggests that much of the environmental clean-up work being done at the Hanford Nuclear facilities is done by private sector workers.

Table 7. Public Compared to Private Green Jobs by Workforce Development Area  
Source: Washington State Green Jobs Survey, Employment Security Department, Labor Market and Economic Analysis, 2009

Area	Public	Percent	Private	Percent	Total
Olympic Consortium	1,078	32.4%	2,249	67.6%	3,327
Pacific Mountain	4,898	57.1%	3,687	42.9%	8,585
Northwest WA	1,179	20.0%	4,723	80.0%	5,902
Snohomish County	619	11.7%	4,687	88.3%	5,306
Seattle-King County	8,006	24.4%	24,851	75.6%	32,857
Pierce County	1,630	22.2%	5,719	77.8%	7,349
Southwest WA	1,005	19.7%	4,089	80.3%	5,094
North Central	1,070	14.2%	6,489	85.8%	7,559
South Central	1,150	23.5%	3,735	76.5%	4,885
Eastern WA	713	16.9%	3,515	83.1%	4,228
Benton-Franklin	881	10.2%	7,791	89.8%	8,671
Spokane	955	18.2%	4,284	81.8%	5,239
Other*			317	100.0%	317
<b>Total</b>	<b>23,182</b>	<b>23.3%</b>	<b>76,137</b>	<b>76.7%</b>	<b>99,319</b>

\* This primarily consists of firms with green jobs in more than one area.

## Skills Difference by WDA

One important question in understanding the green economy is how a green job differs from a non-green job. Is it the skills required? This section looks at the difference between green and non-green job skills and how they differ by WDA.

The green jobs survey asked employers if skills for their green occupations were different than for their non-green occupations. Statewide, 55.8 percent of respondents reported that skills were identical, 32.6 percent reported that they were mostly the same, 7.5 percent reported skills were mostly different, and 4.1 percent reported skills were entirely different.

Looking at skill differences by area, the Benton-Franklin WDA stands out, reporting that about 25 percent of skills were entirely different for green and non-green jobs. This is probably due to the fact that the Benton-Franklin WDA had the highest percent of green jobs in the administrative support and waste management industry (27.4 percent overall), as well as the highest percent of employment in highly skilled occupations such as architecture and engineering (34.4 percent). A quarter of the jobs in the Benton-Franklin WDA were reported in the green-economy core area of mitigating or clean-up of environmental pollution.



Photo by ©iStock/Bill Koplitz



Photo by ©Andrei Merkulov/Dreamstime.com



Photo by ©Jake Hellbach/Dreamstime.com

Table 8. Degree of Skills Similarity Between Green and Non-Green Jobs by Workforce Development Area  
 Source: Washington State Green Jobs Survey, Employment Security Department, Labor Market and Economic Analysis, 2009

WDA	Skills are Identical	Percent of Area Jobs	Skills are Mostly the Same	Percent of Area Jobs	Skills are Mostly Different	Percent of Area Jobs	Skills are Entirely Different	Percent of Area Jobs	Area Total
Olympic Consortium	1,148	56.6%	555	27.4%	273	13.5%	52	2.5%	2,028
Pacific Mountain	1,501	45.9%	1,335	40.8%	311	9.5%	122	3.7%	3,268
Northwest WA	2,516	57.8%	1,293	29.7%	450	10.3%	94	2.2%	4,354
Snohomish County	1,869	47.0%	1,325	33.3%	530	13.3%	251	6.3%	3,975
Seattle-King County	17,300	66.1%	7,237	27.6%	1,371	5.2%	274	1.0%	26,183
Pierce County	2,081	42.4%	2,195	44.8%	533	10.9%	95	1.9%	4,904
Southwest WA	1,557	45.1%	1,285	37.2%	540	15.6%	69	2.0%	3,451
North Central WA	4,135	74.5%	1,118	20.1%	293	5.3%	6	0.1%	5,551
South Central	1,860	60.0%	1,033	33.3%	161	5.2%	47	1.5%	3,101
Eastern WA	2,775	83.5%	430	12.9%	94	2.8%	24	0.7%	3,323
Benton-Franklin	1,494	21.1%	3,493	49.3%	344	4.9%	1,758	24.8%	7,090
Spokane	1,519	38.0%	1,923	48.1%	465	11.6%	90	2.2%	3,997
Other*	9	24.3%	2	6.2%	2	5.1%	24	64.4%	37
<b>Skills Total</b>	<b>39,765</b>	<b>55.8%</b>	<b>23,223</b>	<b>32.6%</b>	<b>5,368</b>	<b>7.5%</b>	<b>2,904</b>	<b>4.1%</b>	<b>71,261</b>

\* This primarily consists of firms with green jobs in more than one area.

## Findings

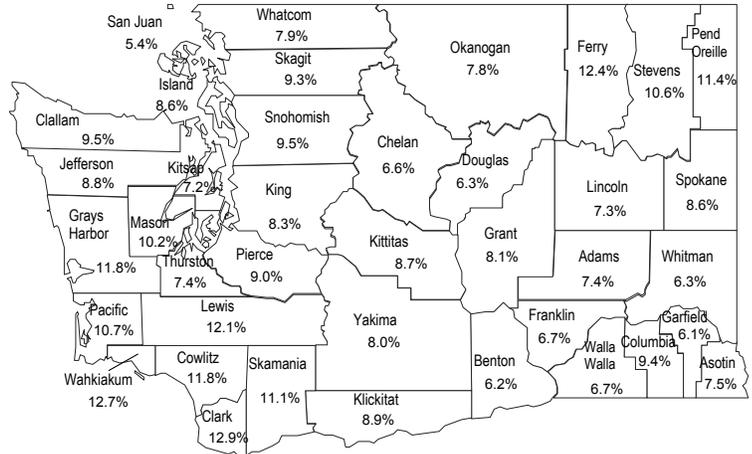
- As a percent of all employment, there was a higher percent of green jobs in rural areas compared to urban areas. Rural areas reported more jobs in preventing and reducing environmental pollution and were heavily represented by agriculture-related occupations and industries.
- Seattle-King County WDA had the highest number of green jobs in all four green-economy core areas.
- In most areas, construction and public administration had the highest number of green jobs.
- The Pacific Mountain WDA ranked at the top for public sector green jobs and the Benton-Franklin WDA had the highest percent of private sector green jobs.
- Among major occupational groups, the North Central Washington WDA reported the highest concentration of farming, fishing, and agriculture occupations, comprising 62.9 percent of that WDA's green employment. The next highest concentration was for the Benton-Franklin WDA with architecture and engineering occupations making up 34.4 percent of the green employment for that area.
- The Eastern Washington WDA had the highest percent of identical green and non-green skills at 83.5 percent. Benton-Franklin WDA had the highest percent of skills that are entirely different at 24.8 percent.
- For most WDAs, top demand green jobs required moderate to short-term on-the-job training with existing green occupations either doing tasks in a different way or requiring some type of enhanced skills.
- Of the top 20 long-term projected growth occupations, the more rural or smaller urban areas had the highest projected growth in green occupations requiring more skills and educational training.
- Online help wanted ads for Pierce County WDA and North Central Washington WDA and new green job occupational titles seem to suggest increased hiring in sales, management, engineering, construction, or business and operations related jobs. Some of those jobs related to new or emerging green occupations in finance, solar energy, and environmental engineering.

# Third Quarter 2010 Stats-At-A-Glance

**Average Unemployment Rates by County**  
**July, August, and September 2010**  
**Washington = 8.8% / United States = 9.8%**  
 Not Seasonally Adjusted

## Monthly Resident Civilian Labor Force and Employment in Washington State and U.S.

(In Thousands)	July 2010 (Revised)	August 2010 (Revised)	Sept. 2010 (Prel.)
<b>Seasonally Adjusted Unemployment Rate:</b>			
Washington State	8.9%	9.0%	9.0%
United States	9.5%	9.6%	9.6%
<b>Washington State</b>			
<i>Not Seasonally Adjusted:</i>			
Resident Civilian Labor Force	3,556.3	3,548.7	3,542.4
Employment	3,245.0	3,232.2	3,239.3
Unemployment	311.3	316.5	303.2
Percent of Labor Force	8.8%	8.9%	8.6%



Washington State  
 Employment Security Department  
 Labor Market and Economic Analysis

### Civilian Labor Force Estimates for Washington State Counties and MSAs<sup>1</sup>

Date: 11/02/10  
 Benchmark: March 2009

	July 2010 Revised				August 2010 Revised				September 2010 Preliminary			
	Labor Force	Employment	Unemployment	Unemployment Rate	Labor Force	Employment	Unemployment	Unemployment Rate	Labor Force	Employment	Unemployment	Unemployment Rate
<b>Not Seasonally Adjusted</b>												
Washington State Total	3,556,330	3,245,000	311,330	8.8	3,548,690	3,232,170	316,520	8.9	3,542,440	3,239,250	303,180	8.6
Bellingham MSA	106,830	98,290	8,540	8.0	108,270	99,460	8,810	8.1	105,010	96,970	8,040	7.7
Bremerton MSA	125,500	116,410	9,090	7.2	127,260	117,860	9,410	7.4	125,690	116,910	8,780	7.0
Kennewick-Pasco-Richland MSA	140,180	131,100	9,070	6.5	139,870	130,680	9,190	6.6	141,360	132,950	8,420	6.0
Benton County <sup>2</sup>	101,360	95,020	6,340	6.3	101,200	94,720	6,480	6.4	102,430	96,360	6,070	5.9
Franklin County <sup>2</sup>	38,820	36,080	2,740	7.1	38,670	35,960	2,710	7.0	38,930	36,590	2,340	6.0
Longview MSA (Cowlitz)	43,790	38,530	5,270	12.0	44,520	39,110	5,410	12.1	44,460	39,490	4,970	11.2
Mt. Vernon-Anacortes MSA (Skagit)	58,300	52,820	5,480	9.4	58,880	53,290	5,590	9.5	57,740	52,490	5,250	9.1
Olympia MSA	131,150	121,350	9,800	7.5	133,290	123,160	10,120	7.6	131,870	122,350	9,520	7.2
Seattle-Bellevue-Everett MD*	1,497,220	1,368,920	128,300	8.6	1,485,860	1,359,550	126,300	8.5	1,480,070	1,350,650	129,420	8.7
King County <sup>2</sup>	1,113,460	1,021,870	91,590	8.2	1,105,390	1,014,880	90,510	8.2	1,101,160	1,008,230	92,930	8.4
Snohomish County <sup>2</sup>	383,760	347,050	36,700	9.6	380,470	344,680	35,790	9.4	378,910	342,420	36,480	9.6
Spokane MSA	232,740	212,370	20,370	8.8	236,530	215,710	20,810	8.8	236,250	216,870	19,380	8.2
Tacoma Metropolitan Division	392,130	356,450	35,670	9.1	398,260	361,160	37,100	9.3	398,870	364,100	34,770	8.7
Wenatchee MSA	79,310	74,720	4,590	5.8	67,610	62,440	5,180	7.7	69,450	65,100	4,350	6.3
Chelan County <sup>2</sup>	52,230	49,160	3,070	5.9	44,530	41,080	3,450	7.7	45,750	42,830	2,920	6.4
Douglas County <sup>2</sup>	27,080	25,560	1,520	5.6	23,090	21,360	1,730	7.5	23,000	22,270	1,430	6.0
Yakima MSA	138,880	128,070	10,810	7.8	133,560	121,570	11,980	9.0	137,610	127,770	9,840	7.1
Aberdeen MSA (Grays Harbor)	31,100	27,380	3,720	12.0	31,480	27,660	3,810	12.1	30,800	27,280	3,520	11.4
Centralia MSA (Lewis)	30,950	27,170	3,770	12.2	31,650	27,720	3,930	12.4	31,140	27,500	3,640	11.7
Ellensburg MSA (Kittitas)	19,850	18,110	1,740	8.8	19,900	18,130	1,770	8.9	19,470	17,850	1,620	8.3
Moses Lake MSA (Grant)	46,520	42,700	3,820	8.2	45,100	41,190	3,910	8.7	46,690	43,180	3,510	7.5
Oak Harbor MSA (Island County)	32,090	29,330	2,760	8.6	32,590	29,760	2,840	8.7	32,330	29,600	2,740	8.5
Port Angeles MSA (Clallam)	29,860	27,030	2,830	9.5	30,510	27,540	2,970	9.7	29,870	27,120	2,750	9.2
Pullman MSA (Whitman)	18,970	17,610	1,360	7.2	19,060	17,770	1,290	6.8	22,230	21,080	1,150	5.2
Shelton MSA (Mason)	24,750	22,260	2,490	10.1	25,190	22,510	2,670	10.6	24,960	22,450	2,500	10.0
Walla Walla MSA (Walla Walla)	32,160	29,990	2,160	6.7	31,790	29,570	2,220	7.0	31,880	29,850	2,030	6.4
Adams	8,820	8,130	690	7.8	8,680	8,020	660	7.6	8,810	8,210	590	6.7
Asotin <sup>2</sup>	10,180	9,380	800	7.9	10,340	9,570	770	7.4	10,520	9,760	760	7.2
Clark <sup>2</sup>	214,220	186,150	28,070	13.1	218,820	189,530	29,290	13.4	215,420	189,130	26,290	12.2
Columbia	1,530	1,380	150	9.7	1,560	1,400	150	9.8	1,570	1,430	140	9.0
Ferry	3,050	2,670	390	12.6	3,080	2,680	400	12.9	3,050	2,700	350	11.6
Garfield	1,100	1,030	70	6.4	1,130	1,060	70	5.9	1,060	1,000	60	5.6
Jefferson	12,970	11,850	1,120	8.6	13,260	12,080	1,180	8.9	12,990	11,850	1,140	8.7
Klickitat	11,830	10,780	1,050	8.8	11,580	10,460	1,130	9.7	11,600	10,650	950	8.2
Lincoln	5,070	4,690	380	7.5	5,130	4,750	380	7.4	4,950	4,610	350	7.0
Okanogan	25,870	23,900	1,970	7.6	24,040	21,940	2,090	8.7	25,960	24,110	1,840	7.1
Pacific	9,400	8,360	1,030	11.0	9,510	8,450	1,060	11.2	9,290	8,360	940	10.1
Pend Oreille	5,410	4,770	640	11.7	5,390	4,760	630	11.7	5,340	4,770	570	10.7
San Juan	9,250	8,750	500	5.4	9,380	8,870	510	5.5	8,730	8,250	480	5.5
Skamania <sup>2</sup>	4,980	4,390	590	11.8	5,090	4,470	620	12.3	4,910	4,460	450	9.2
Stevens	18,900	16,830	2,070	10.9	19,020	16,930	2,080	11.0	18,980	17,080	1,900	10.0
Wahkiakum	1,520	1,320	200	13.1	1,550	1,350	200	13.2	1,510	1,340	180	11.8

<sup>1</sup> Official U.S. Department of Labor, Bureau of Labor Statistics data

<sup>2</sup> Estimates are determined by using the Population/Claims Share disaggregation methodology.

Note: Detail may not add due to rounding.

\*Metropolitan Division

MSA – Metropolitan Statistical Area

# Nonagricultural Wage and Salary Employment in Washington State, Place of Work<sup>1</sup>

Seasonally Adjusted

Quarterly Benchmark: March 2010

In Thousands

Industry	Apr. 2010 (Rev)	May. 2010 (Rev)	June 2010 (Rev)	Jul. 2010 (Rev)	Aug. 2010 (Rev)	Sep. 2010 (Prel)
<b>Total Nonfarm</b>	<b>2,788,300</b>	<b>2,795,000</b>	<b>2,791,100</b>	<b>2,786,800</b>	<b>2,784,600</b>	<b>2,780,000</b>
Mining and Logging	6,000	6,100	6,100	6,100	6,100	6,200
Logging	3,800	3,800	3,800	3,800	3,800	3,900
<b>Construction</b>	<b>142,900</b>	<b>141,800</b>	<b>141,000</b>	<b>141,200</b>	<b>141,100</b>	<b>140,600</b>
Construction of Buildings	35,600	35,200	34,900	34,900	34,700	34,500
Heavy and Civil Engineering	17,500	17,100	17,100	17,400	17,400	17,500
Specialty Trade Contractors	89,800	89,500	89,000	88,900	89,000	88,600
<b>Manufacturing</b>	<b>258,100</b>	<b>257,900</b>	<b>258,200</b>	<b>257,300</b>	<b>257,400</b>	<b>258,200</b>
Durable Goods	183,900	183,800	183,800	183,900	182,700	183,700
Wood Products	13,300	13,300	13,200	13,100	13,000	13,100
Fabricated Metal Products	16,800	16,700	16,600	16,500	16,400	16,600
Computer and Electronic Products	18,900	19,000	19,000	19,000	18,900	19,100
Transportation Equipment	89,300	89,100	89,300	89,700	89,000	89,600
Aerospace Products and Parts	80,600	80,300	80,400	80,700	80,000	80,400
Nondurable Goods	74,200	74,100	74,400	73,400	74,700	74,500
Food Manufacturing	33,900	33,800	34,000	33,700	34,400	34,400
<b>Wholesale Trade</b>	<b>121,800</b>	<b>121,700</b>	<b>121,400</b>	<b>122,100</b>	<b>122,400</b>	<b>122,900</b>
<b>Retail Trade</b>	<b>309,900</b>	<b>310,100</b>	<b>310,600</b>	<b>310,600</b>	<b>310,300</b>	<b>311,100</b>
Motor Vehicle and Parts Dealers	35,900	35,900	35,900	36,000	36,000	36,200
Food and Beverage Stores	60,800	60,900	60,900	61,000	61,000	60,700
Clothing and Clothing Accessories Stores	22,700	22,700	22,800	22,700	22,900	23,300
General Merchandise Stores	67,300	67,500	68,000	68,200	67,900	67,700
<b>Transportation, Warehousing and Utilities</b>	<b>90,000</b>	<b>89,700</b>	<b>89,900</b>	<b>90,600</b>	<b>90,200</b>	<b>90,200</b>
Utilities	5,600	5,500	5,600	5,500	5,500	5,500
Transportation and Warehousing	84,400	84,200	84,300	85,100	84,700	84,700
Air Transportation	10,200	10,300	10,300	10,200	10,300	10,200
Water Transportation	3,300	3,300	3,300	3,300	3,300	3,300
Truck Transportation	22,100	22,300	22,400	22,800	22,700	22,800
Support Activities for Transportation	17,400	17,600	17,700	17,800	17,600	17,700
Support Activities for Water Transportation	5,600	5,700	5,800	5,900	5,900	6,100
Warehousing and Storage	10,000	9,800	9,700	9,800	9,600	9,500
<b>Information</b>	<b>101,700</b>	<b>101,800</b>	<b>102,000</b>	<b>102,200</b>	<b>102,900</b>	<b>103,000</b>
Software Publishers	50,700	50,700	51,000	50,900	51,300	51,500
Telecommunications	24,700	24,700	24,900	24,800	25,000	24,900
<b>Financial Activities</b>	<b>135,700</b>	<b>135,100</b>	<b>134,300</b>	<b>133,900</b>	<b>134,500</b>	<b>134,700</b>
Finance and Insurance	89,400	89,200	88,800	88,500	88,900	89,000
Credit Intermediation and Related Activities	42,200	41,900	41,700	41,300	41,300	41,500
Insurance Carriers and Related Activities	36,000	35,900	35,900	36,000	36,200	36,000
Real Estate and Rental and Leasing	46,300	45,900	45,500	45,400	45,600	45,700
<b>Professional and Business Services</b>	<b>323,800</b>	<b>323,900</b>	<b>324,700</b>	<b>324,600</b>	<b>324,000</b>	<b>322,900</b>
Professional, Scientific and Technical Services	161,900	161,700	162,600	163,200	163,000	162,800
Legal Services	21,000	20,900	20,900	20,800	20,900	21,100
Architectural and Engineering Services	33,900	33,900	34,200	34,400	34,300	34,800
Computer Systems Design and Related Services	33,600	34,000	34,100	34,400	34,300	34,600
Management of Companies and Enterprises	31,100	31,100	31,000	30,900	30,700	30,500
Admin and Support and Waste Management and Remediation	130,800	131,100	131,100	130,500	130,300	129,600
Employment Services	35,100	35,600	35,700	36,200	35,400	34,700
<b>Education and Health Services</b>	<b>375,000</b>	<b>375,400</b>	<b>376,300</b>	<b>377,600</b>	<b>378,000</b>	<b>378,400</b>
Education Services	49,300	49,400	49,700	49,900	50,100	49,700
Hospitals	73,500	73,800	73,700	73,800	74,100	74,200
Nursing and Residential Care Facilities	60,200	60,200	60,300	60,500	60,900	60,600
Social Assistance	60,300	60,600	60,800	61,100	60,500	61,600
<b>Leisure and Hospitality</b>	<b>267,900</b>	<b>267,300</b>	<b>266,800</b>	<b>267,000</b>	<b>266,800</b>	<b>266,600</b>
Arts, Entertainment and Recreation	46,100	45,300	45,600	45,500	45,000	45,100
Accommodation	29,700	29,600	29,600	29,200	29,200	29,200
Food Services and Drinking Places	192,100	192,400	191,600	192,300	192,600	192,300
<b>Government</b>	<b>549,200</b>	<b>557,900</b>	<b>553,100</b>	<b>547,000</b>	<b>544,500</b>	<b>538,800</b>
Federal Government	75,400	84,300	80,200	76,100	74,800	73,800
Total State Government	150,100	150,200	149,500	147,900	145,300	144,300
State Government Educational Services	79,600	79,700	79,100	78,700	76,200	74,900
Total Local Government	323,700	323,400	323,400	323,000	324,400	320,700
Local Government Educational Services	154,500	154,700	154,300	154,300	155,600	152,800
<b>Workers in Labor-Management Disputes</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

<sup>1</sup> Excludes proprietors, self-employed, members of armed forces, and private household employees. Includes all full- and part-time wage and salary workers receiving pay during the pay period including the 12th of the month.

Prepared by the Labor Market and Economic Analysis branch using a Quarterly Benchmark process.

This process uses the most recent quarter from the Unemployment Insurance Tax Reports (currently March 2010) and estimates employment from that point to present.

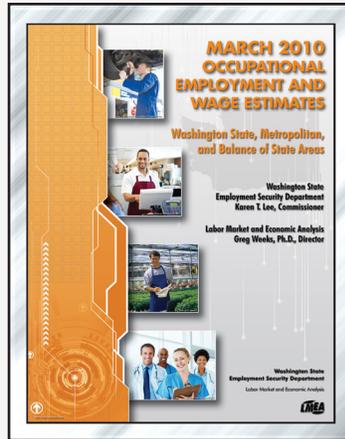
# What's New

## Occupational Employment and Wage Estimates

The data in this publication are presented by area for statewide, metropolitan statistical areas, metropolitan divisions, and balance of state areas. All data are at the cross-industry level. The occupational employment and wage estimates are based on the spring 2009 Occupational Employment Statistics (OES) Survey. The survey is a federal-state cooperative program between state employment departments and the Bureau of Labor Statistics, U.S. Department of Labor. National estimates and information about the survey are available online at [www.bls.gov/oes](http://www.bls.gov/oes).

## Washington State Business Employment Dynamics

These data are available in a seasonally and non-seasonally adjusted form that can highlight the forces behind the dynamics of labor markets at the state and national level. It also tracks job gains and losses at private business establishments, and can identify whether the change is due to establishment openings or closings versus adding or shedding employment in existing firms. For more information on the Business Employment Dynamics series, go to the website located at <http://stats.bls.gov/bdm/home.htm>.



Look for these reports and more on Workforce Explorer!

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Washington State Employment Security Department

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