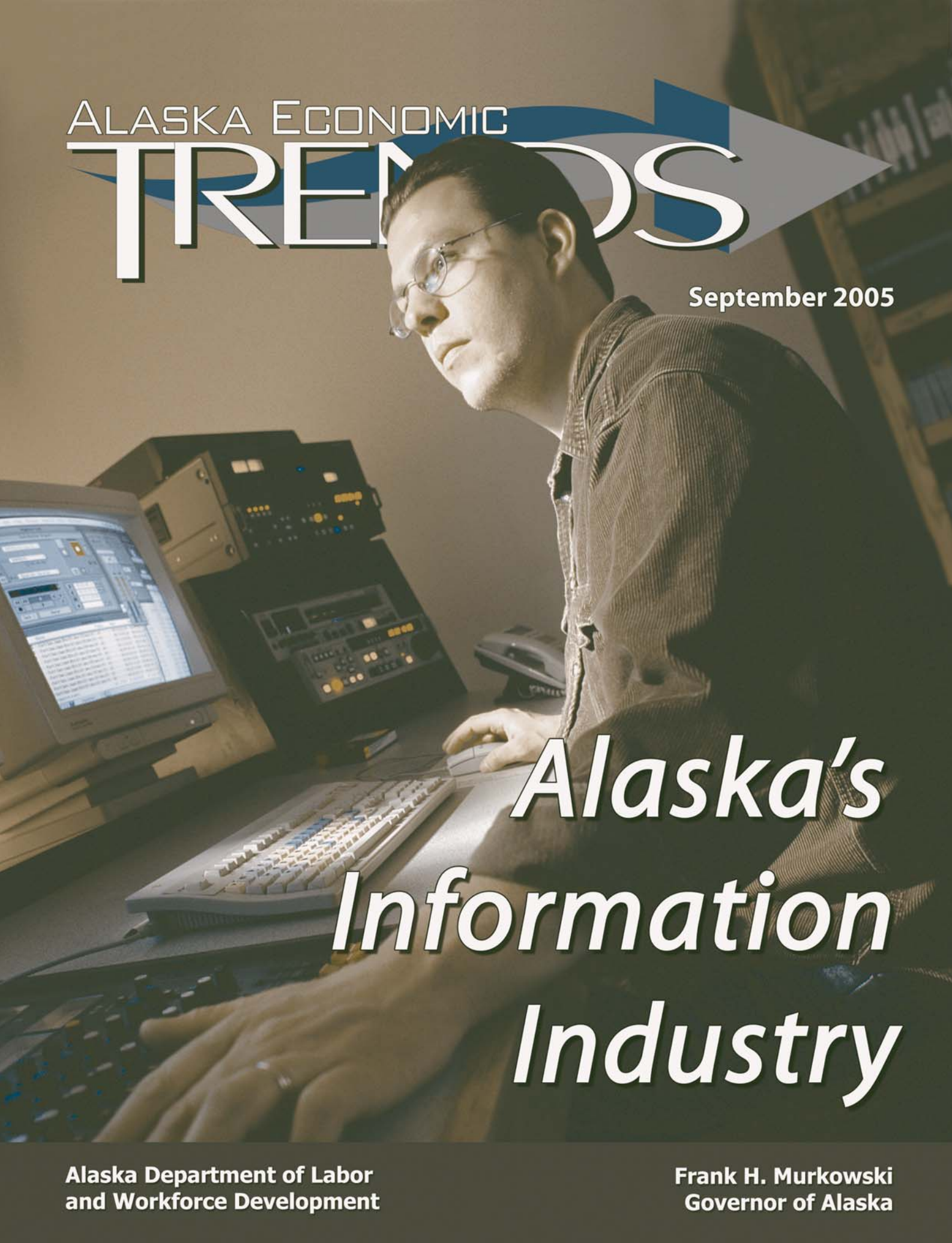

Alaska Economic Trends

September 2005

Alaska's Information Industry

Alaska Department of Labor
and Workforce Development

Frank H. Murkowski
Governor of Alaska

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The Information Industry's Economic Impact

by Governor Frank H. Murkowski

This month's Trends cover story analyzes the economic impact of the information industry in Alaska. This segment of our economy only employs about 2 percent of our workforce and generates close to $330 million in payroll, almost identical to the national average. The impact this industry has on our state, though, is almost incalculable and permeates every aspect of our lives. In many ways, the quality of life we enjoy in Alaska, and are constantly working to improve, would be impossible without the contributions of this industry.

Think about it: telephones (land line and wireless), computers, the Internet, fax, radio, television, books, magazines, newspapers, movies and the theater all contribute to our ability to live, prosper and enjoy a quality of life that is becoming the envy of the rest of the country and the world.

It has changed the realities of life in Alaska.

Today if you get lost or injured in the woods, or your car breaks down in the middle of the winter while driving from Anchorage to Fairbanks, your chances for survival are much greater than 20 years ago. Now you call 911 for help on your cell phone. With the advent of GPS-enhanced 911 service, your location can be pinpointed and help can be on the way in mere moments. A far cry from the life we Alaskans used to live.

While my administration is working hard to build our state, revitalize our traditional industries and grow our economy beyond its reliance on oil and gas, we are also aware of the incredible opportunities the emergence of the global information society and its associated technologies afford us.

These opportunities can only be realized if we are prepared for them. We must expose our youth and current workforce to the opportunity to learn the skills necessary to program, operate and maintain the equipment and machinery that will be used to build the gas pipeline, expand our rail system and construct our roads, bridges and ports.

We can do this by insisting our schools restore vocational curriculums and employ vocational counselors. We must ensure that training and apprentice programs for Alaska's workforce are expanded to accommodate the thousands of high paying skill jobs we are creating.

We must expand access to health care and education, across the state, by ensuring communities are connected to each other through satellite communications and the Internet.

By employing these new technologies and skills, we will develop our resources, both renewable and non-renewable, in an environmentally responsible manner that was impossible just a few short years ago.

Every day the information industry helps develop technology that allows us to do the things we need to do cleaner, smarter and faster.

Every day the information industry brings all Alaskans closer and we become not just a village unto ourselves but a leading member of the global village of the 21st century. The brave new world meets the last frontier. What an exciting time to be alive.

Alaska's Information Industry

By Neal Fried and
Brigitta Windisch-Cole,
Economists

A Small But Important Employer

Although Alaska's information industry is small – it employs only 2 percent of the state's wage and salary work force – it is the third-highest paying industry in the state, behind only natural resources/ mining and construction. It is also one of the most dynamic. Technological changes, market conditions and the relatively recent deregulation of the telecommunications industry have transformed the landscape for most information sector employers. And more changes are likely.

Who are they?

When the word "information" is used in terms like the "information age" or the "global information economy," it brings to mind places like Seattle or Silicon Valley. Many employers who thrive in those areas are, in fact, classified in the information sector, but the sector also includes other more traditional employers such as newspaper and magazine publishers and radio and television stations.

The information industry, also called the information sector, has six major components. Here are the short titles: telecommunications, general publishing, television and radio broadcasting, motion pictures and sound recording, Internet publishing, as well as Internet service providers combined with data processing.

In some cases information firms are businesses with a single focus, such as the single-screen Homer Family Theater. In other cases they are multi-service companies such as General Communications Incorporated (GCI) and Alaska Communications Systems (ACS), which now provide everything from traditional phone lines and cable to Internet access and wireless services.

The information sector also is a mixture of old stalwarts and newcomers. Some companies have provided Alaskans with telephone service, television reception and movie theaters for decades. Newer companies, and many of the older ones that have evolved and expanded, offer Internet access, cellular and other wireless communications. Still other new companies provide software publishing.

Four major players represent 46 percent of the information sector's employment: GCI, ACS, the Anchorage Daily News and the Matanuska Telephone Association. All four are on the list of the state's 100 largest private employers. GCI is the largest information sector employer (see Exhibit 1) and the 10th largest private employer in the state. The information sector's 25 largest employers represent three-quarters of the sector's employment. The rest are small companies with less than 20 employees.

Information sector pays well

Alaska has 11 major industry sectors and only two – natural resources and mining, and construction – have average annual earnings higher than the information sector. In fact, the information industry's $48,047 average annual earnings exceed the statewide average by more than $10,000. (See Exhibit 2.)

The sole reason for such high earnings is the telecommunications field, with average annual earnings of $59,584 in 2004. (See Exhibit 3.) Only one other component in the information industry exceeded the state's average: Internet service providers, data processing, Web search portals and services, which had average annual earnings of $39,132. Motion picture and sound recording paid the lowest wages, $12,478, primarily because low-wage and part-time jobs in movie theaters dominate its employment.

Small but powerful

Looking at the number of employees, the information industry is the smallest of Alaska's major employment sectors. (See Exhibit 4.) It employs a work force of just under 6,900 wage and salary workers and generates just $330 million in payroll.

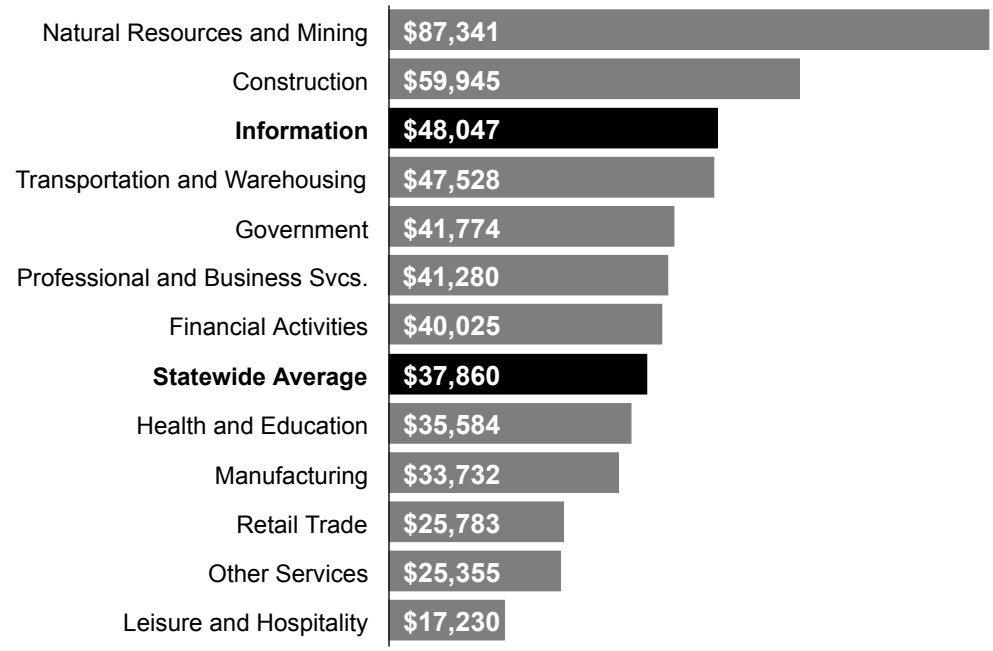
The small employment numbers, though, clearly understate the large impact the information sector has on Alaska's economy. It has had a transforming effect on the state's 10 other major sectors: It has changed and streamlined the way most firms do business and has become a significant contributor to increases in economic output. In many ways, the information sector weaves and binds the state's economy together and connects it instantaneously to the rest of the world. Without the information sector, most of the rest of the economy could not function competitively.

Alaska's Largest Employers in the Information Sector 2004 1

Rank	Employer	Annual Average Employment	Industry
1	General Communications Inc. (GCI)	1,225	Wired/Wireless/Internet/Cable Telecommunications
2	Alaska Communication Systems (ACS)	1,072	Wired/Wireless/Internet Telecommunications
3	Anchorage Daily News	540	Newspaper
4	Matanuska Telephone Association	323	Wired/Wireless/Internet Telecommunications
5	AT&T Alascom	259	Wired/Internet Telecommunications
6	Shivers Trading & Operating Company (Morris Communications)	242	Newspapers/Radio Stations
7	Arctec Alaska	153	Other Telecommunications
8	Fairbanks Daily News-Miner	145	Newspapers
9	United Utilities	142	Wired/Wireless/Telecommunications
10	KTUU TV (Anchorage's Channel 2)	126	Television Broadcasting
11	Alaska Power & Telephone Company (AP&T)	125	Wired/Wireless/Internet/Electricity
12	Clear Channel Broadcasting	122	Radio Network
13	Dobson Communications (Cellular One)	121	Wireless Telecommunication
14	First Health Services	86	Data Processing, Hosting and Related Services
15	Eastgate Theatre	80	Movie Theaters
16	Century Theaters	77	Movie Theaters
17	Alaska Newspaper Inc.	66	Local Newspapers/Radio Station
18	Alaska Digitel	59	Wireless Telecommunication
19	Smith Broadcasting Group (Anchorage's Channel 13)	57	Television Broadcasting
20	CoastAlaska (Southeast Alaska public radio)	55	Radio Stations
21	Martin Marietta Operation Support	54	Other Communications
22	Regal Cinemas	52	Movie Theaters
23	Arctic Slope Telephone Association	52	Wired/Wireless/Internet Telecommunications
24	Gross Alaska	51	Movie Theaters
25	Alaska Public Telecommunications	47	Television Broadcasting

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

2 Information Industry Pays Above-Average Wages
2004 Annual Employee Earnings



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Telecommunications is the heavyweight

Nearly 60 percent of all information sector employment is in telecommunications. (See Exhibit 3.) That number is not surprising, considering that nearly every household in the state is connected by some type of phone, whether landline, wireless or both, and many subscribe to companies for Internet access or cable TV.

Just under 18 percent of the information sector's employment is in publishing. It employed 1,228 people in 2004. Of those, 83 percent worked for newspapers and about 9 percent worked for magazines.

Radio and television broadcasting is the third-largest employer within the information sector. It employed just over 12 percent of the industry's employees, or 857 workers. Often one company might do both radio and television, and in a few instances, a company might publish newspapers too. For example, Georgia-based Morris Communications publishes seven newspapers in Alaska, along with Alaska magazine and The Milepost, and also runs six radio stations around the state.

The motion picture subcategory is the fourth-largest employer in the information sector. It has 6 percent of the employment, or 406 employees, and is pretty straightforward: Nearly all the employees work in movie theaters. Alaska has 18 movie production studios that have employees, but the annual average employment for all 18 combined is just 33.

The last three components are the smallest. The component that represents Internet providers, Web search portals and data processing companies had 3 percent of the information sector employment in 2004, or 198 employees. A few local Internet providers provide those services, along with Alaska telecommunication companies or national providers with no physical presence in Alaska. The last two components represent 66 employees total: Internet publishing and broadcasting as well as the "other information" component, which includes private libraries and archives and news clipping services.

It grew and then it stalled

Trends in telecommunications influence the direction of the entire information industry because telecommunications since the mid-1990s have been responsible for more than half the industry's employment and revenues.

Before 1996, the telecommunications world was heavily regulated and did not really change much year to year. (See Exhibit 5.) For example, in the mid-1990s, Alaskans did not have a choice of local phone companies. Cell phones had barely arrived and typically one company in each community dominated the industry. But beginning in 1996, things began to change dramatically. For the next four years the industry grew quite spectacularly.

In addition to deregulation, the high-tech boom that gripped the U.S. – and is largely credited for the country's dynamic growth in the mid- to late-1990s – hit Alaska too. It became the most-wired state in the nation. Sixty-eight percent of Alaskan households had Internet access in 2003, the highest share of any state, according to the U.S. Census Bureau. Foreign Direct Investment magazine in its June/July 2005 issue ranked Anchorage as the second-best city, after Chicago, in telecommunications and information technology. The ranking is based on the percentage of residents who have access to telecommunications technology and the existing infrastructure. Anchorage tied with New York City and Phoenix.

With the convergence of deregulation and technology, new competitors entered the information industry marketplace, particularly in telecommunications, while existing players got involved in new products and technology. It all caused massive investment in the information industry. Wireless companies such as MacTel or Century Telephone popped up around the state along with Internet providers such as Greatland Internet Services and others. GCI, an older existing player that had a work force of 257 in 1994, grew nearly five times that amount in 11 years. It now has 1,225 employees. ACS, now the second-largest information sector employer in Alaska, did not even exist in its current form in 1994. In fact, nearly half of the 25 largest employers in the information sector (see Exhibit 1) were not on the same list a decade ago.

However, one trend gave information sector employment an artificial boost: the privatization of two sizeable telecommunications companies.

Information Sector Employment 2004 3

	Annual Average Employment	Share	Payroll	Annual Average Earnings
Total Information Employment	6,865	100.0%	$329,849,085	$48,047
Publishing (except Internet)	1,228	17.9%	$40,322,636	$32,836
Motion picture and sound recording	406	5.9%	$5,066,196	$12,478
Broadcasting (except Internet)	857	12.5%	$22,474,665	$26,225
Internet publishing and broadcasting	9	0.1%	*	*
Telecommunications	4,110	59.9%	$244,890,315	$59,584
Internet service providers, Web search portals and data processing services	198	2.9%	$7,748,067	$39,132
Other Information	57	0.8%	*	*

* Data suppressed for confidentiality in compliance with Bureau of Labor Statistics' standards.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

The largest was the Anchorage Telephone Utility, owned and operated by the Municipality of Anchorage. It was the nation's largest publicly owned phone company. When the Municipality of Anchorage sold it to ACS in late 1998, the 700 Municipality of Anchorage employees were suddenly private-sector employees. A similar situation occurred in 1997 when Pacific Telecom Inc. (PTI) bought part of the City of Fairbanks' Municipal Utility Services Company. ACS is now the owner.

As the nation's technology boom cooled off, areas with a high concentration of tech industries, such as Seattle or the Silicon Valley, experienced a full-blown bust in 2001. Alaska's information industry, for the most part, escaped because it was not producing the high technology – it was simply buying it from the Lower 48.

Employment in Alaska's information industry peaked at 7,500 in 2000, then tapered down to 6,865 employees in 2004 (see Exhibit 5), but this was primarily due to the consolidation of telecommunications, Internet and other types of information-service companies.

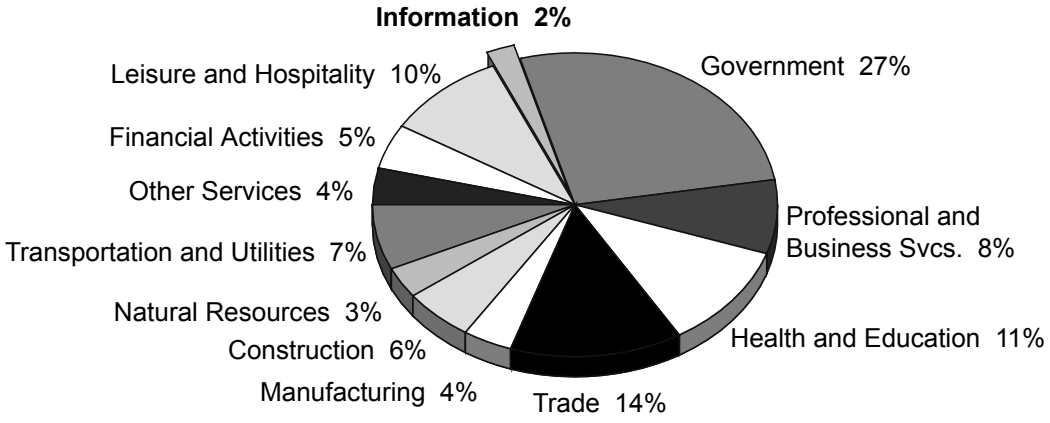
Alaska mix is different than the U.S.

Although Alaska's information sector claims nearly the same share of total wage and salary employment as it does nationally, there are distinct differences in the industry composition. (See Exhibit 6.) Telecommunications' dominance is much more accentuated in Alaska, where it claims 60 percent of the statewide information sector versus 33 percent of the national information sector. Telecommunications' large role in Alaska can be partially explained by the fact that many other components of the information sector have developed their businesses in the Lower 48, and that is where their employees are. Most software publishers, Web engineers, designers, motion picture producers and computer support people are based outside Alaska.

Publishing's share of the information sector is considerably smaller in Alaska than it is in the rest of the U.S. In Alaska, publishing represents 18 percent; nationwide, it is 29 percent. Newspapers are the biggest employers in the business, both in Alaska and nationally. Within the publishing component, software publishers in Alaska account for just 5 percent of this component – Alaska has nine such employers – while they account for nearly 36 percent of publishing employment nationwide.

Motion picture and sound recording employ 6 percent of Alaska's information sector; it employs 12 percent of the U.S. information sector.

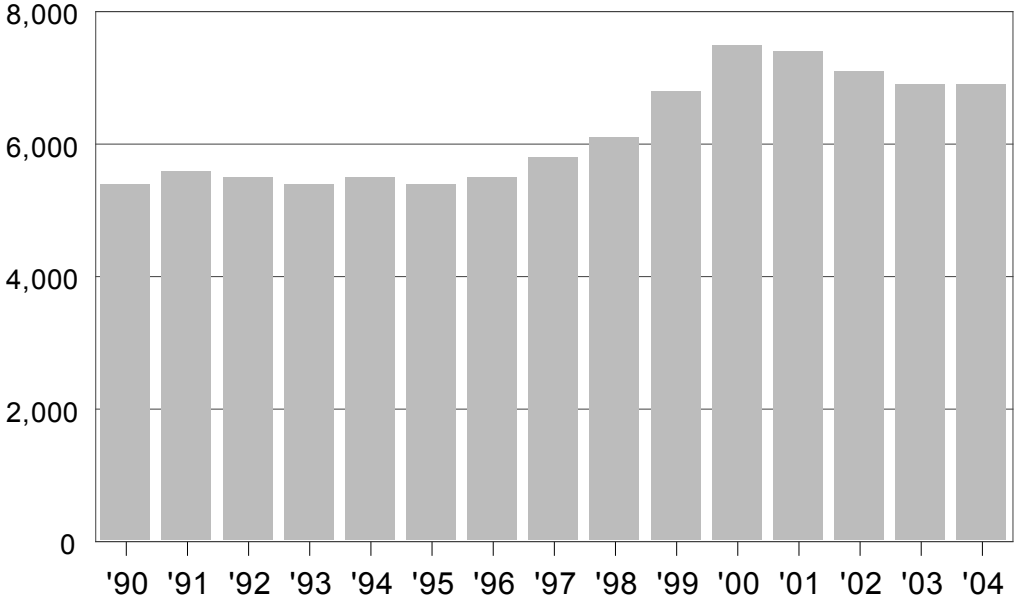
4 Alaska's Information Industry Employment 2004
A relatively small employer



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Alaska's Information Employment 1990-2004
It rose, peaked and declined slightly

5



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Broadcasting – radio and television – employs 12 percent of Alaska's information sector; nationally, it is 10 percent. While radio networks and radio stations employ nearly 58 percent of the broadcasting industry in Alaska, television broadcasting plays the dominant role in the nation (53 percent).

Rural Alaskans maintain a special relationship with radio broadcasting because it connects the most remote places with the rest of the world and until the last decade or so it was their main link to the outside world.

New technology has dramatically expanded television viewing around the state. Many rural areas now have cable and satellite television, but the high costs associated with cable and satellite service and the small population bases have limited their coverage.

Both public radio and television play a disproportionately big role in rural locations and the Bush – Alaskans' term for remote areas – because the audience is usually too small to support commercial stations. Twenty-seven public radio and five public television stations have their own programs. The only Alaska television channel that reaches the majority of Alaska's rural areas and the Bush is the state-run Alaska Rural Communication Service channel. It is specially designed for rural areas and consists of CBS, NBC and public television programs.

Anchorage has seven local commercial and public television stations, Fairbanks five, Juneau three and Kodiak, North Pole and Sitka one each, and their broadcasts often reach outlying areas.

Internet publishing and broadcasting is a fairly new information industry component. In Alaska, its size is miniscule – less than half a percent of Alaska's information industry. In the U.S., it is 1 percent.

Internet service providers, Web search portals and data processing companies in Alaska employ 3 percent of the state's information sector; it is 12 percent nationwide. Again, the developers

of such specialized equipment and services are mostly headquartered in the Lower 48. The "other information" employers described earlier employ 1 percent of Alaska's information sector work force, compared to 2 percent in the U.S.

Alaska lacks the diversity of information employment that exists in other states. However, the consumption of new technology in Alaska is just as common as elsewhere.

It is an urban phenomenon

Nearly two-thirds of the state's information work force is employed in Anchorage (Exhibit 7.) The information sector allows people at a central work station, such as in Anchorage, to generate a work product and distribute it to areas throughout the state, all without having to hire anyone in those areas. For the most part, information sector products, whether a television broadcast, newspaper or Internet access, do not require physical contact between the supplier and the consumer.

The information sector is new

The information sector did not exist as an economic classification until four years ago, when the U.S. Bureau of Labor Statistics adopted a new way of looking at employment.

Economists with the Alaska Department of Labor & Workforce Development, like their counterparts in the other states, converted to the new system in 2001.

Since the 1930s, government statistical programs nationwide had published data based on the U.S. Standard Industrial Classification (SIC) system, which focused more on the manufacturing industries and what was produced. In 1993, the statistical agencies of the U.S., Canada and Mexico began putting together a new system that better reflected the economy of the late 20th Century – the North American Industrial Classification System (NAICS). It was finalized 2001.

The NAICS places more emphasis on the service sector, and focuses on what workers do rather than what products are created or which services are provided. The new system is also more detailed. It replaces SIC's 11 sectors with 20 of its own. Some of these, like the information sector, contain high-tech industries such as Internet publishing and broadcasting that did not even exist when the last SIC Manual was released in 1987. Other industries were shuffled around. Publishing fell under manufacturing in the old system; now it is a component of the information sector.

6 Employment Mix 2004
Information Industry in Alaska and the U.S.

	Alaska Industry Mix	National Industry Mix
Information Industry Employment	100%	100%
Publishing (except Internet)	18%	29%
Motion Picture and Sound Recording	6%	12%
Broadcasting (except Internet)	12%	10%
Internet Publishing and Broadcasting	0%	1%
Telecommunications	60%	33%
Internet Service Providers, Web Search Portals and Data Processing Services	3%	12%
Other Information Services	1%	2%

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Another 24 percent of the information sector's employment is concentrated in the state's other more-populated areas of Fairbanks, Mat-Su, Juneau and the Kenai Peninsula. But some information employment can be found in every borough or census area throughout the state. And often the numbers are significant, even in the smaller communities: the Bethel area has 94 information industry employees, Sitka has 42 and the Wrangell-Petersburg area has 56.

Summary

Alaska's small, eclectic but dynamic information sector provides a variety of employment and often cutting-edge career opportunities. It is an industry that has grown faster than average and, with the expectation that technology will continue to evolve rapidly, it will remain a key industry in the state. Without it and its continuing evolution, Alaska's economy could not thrive and remain connected within the state, to the rest of the nation and to the world.

Information Employment and Payroll by Area 2004 7

	Annual Average Employment	Information Payroll
Statewide	6,865	$329,849,085
Aleutians East Borough	3	*
Aleutians West Census Area	16	$168,341
Anchorage, Municipality of	4,373	$217,644,793
Bethel Census Area	94	$1,007,684
Bristol Bay Borough	16	$930,600
Denali Borough	1	*
Dillingham Census Area	36	$2,231,453
Fairbanks North Star Borough	576	$30,221,981
Haines Borough	20	798,590
Juneau, City & Borough of	290	$11,497,786
Kenai Peninsula Borough	254	$9,572,538
Ketchikan Gateway Borough	100	$3,443,114
Lake and Peninsula Borough	1	*
Kodiak Island Borough	72	$2,382,755
Matanuska-Susitna Borough	521	$27,492,529
Nome Census Area	13	$527,151
North Slope Borough	53	$3,507,648
Northwest Arctic Borough	56	$2,832,017
Prince of Wales - Outer Ketchikan Census Area	45	$1,539,075
Sitka, City & Borough of	42	$1,462,175
Skagway-Hoonah-Angoon Census Area	15	$771,474
Southeast Fairbanks Census Area	43	$1,868,226
Valdez-Cordova Census Area	99	$5,320,343
Wade Hampton Census Area	2	*
Wrangell-Petersburg Census Area	56	$1,445,204
Yakutat, City & Borough of	1	*
Yukon-Koyukuk Census Area	15	$375,436

* Data suppressed for confidentiality in compliance with Bureau of Labor Statistics' standards.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Occupations in the Information Sector

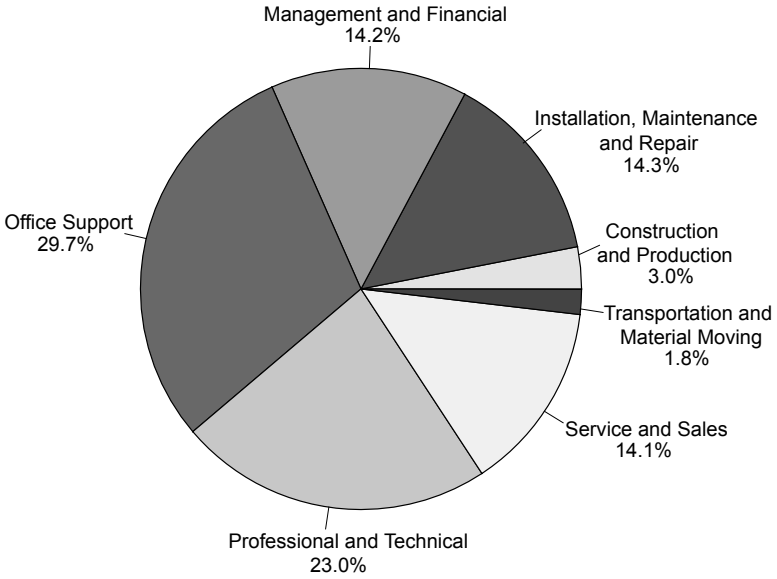
By Michael Patton,
Economist

Information is a sector that employs a wide spectrum of talents, ranging from the arts and sciences to advertising sales. Occupations in this field generally demand higher levels of education and technical expertise than those required in other sectors. As a result, they also command higher than average wages.

In Alaska, a fairly young, predominantly resident work force staffs this sector. Non-resident workers are, however, an important component in some occupations that require high levels of education and expertise. Occupations in technical and management fields rank highest in terms of pay, while occupations such as arts, media and office support positions rank lowest. As in most other sectors, management and financial occupations tend to have a higher percentage of older workers.

In order to use the most recent data available for this analysis, the years of the data used varied. Estimated employment is based on 2002 data, residency and ages are based on 2003 data and wages are based on 2004 data.

1 The Staffing Pattern
Alaska's information sector 2002



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Information's occupation mix

In 2002, Alaska had 6,900 people working in the 99 occupations of the information sector that had more than 10 employees. This meant that no occupation had very many employees. Two occupations, customer service representatives and telecom equipment installers and repairers, stand out as having the most employees of all the occupations in the information sector. They had 702 and 484 employees respectively. Together, they accounted for 17 percent of the information sector employment.

Seventeen occupations in the information sector had at least 100 employees. The average employment was 201. These 17 represent a total employment of 3,600, or 52 percent of the information sector's employment. Overall, those 3,600 were younger and earned less than those in the information sector's other occupations.

Of the seven major occupational groups (see Exhibit 1), office support accounts for the largest share at 29.7 percent. Professional and technical occupations followed at 23 percent. These two groups represent 53 percent of the sector's employment.

Education levels

Of the 99 occupations, 36 typically require a bachelor's degree or above. (See Exhibit 2.) Another 30 occupations require medium or long-term training or experience. There are interesting differences between these two groups: Those occupations requiring a bachelor's degree or above had more workers age 50 or older (27.7 percent). They also had average wages that were significantly higher than those occupations requiring medium or long-term training or experience. In fact, the occupations requiring a bachelor's degree or above were paid more than all the other groups categorized by required education, training or experience.

The occupation education level that had the lowest percentage of older workers and the lowest average wage was, predictably, short-term training or experience. The average wage across all employment sectors was $13.16[1], less than half the average in the bachelor's degree or higher level category. On the other hand, occupations requiring work experience in a related occupation, which includes mostly first-line supervisors or other lower managers, had the second-highest wage level ($24.48) and had the second-highest percentage of older workers (26.6 percent). Occupations requiring an associate degree or significant post-secondary vocational training, such as those in the electronics, broadcast, computer support and desktop publishing fields, had the third-highest average wage ($23.81) and the same percentage of older workers (26.6 percent).

Older workers

The baby boom generation is middle-aged now, and that much closer to retirement, so statistics involving older workers are a greater issue today than they were a decade ago. Twenty-four percent of the workers in the information sector occupations in 2003 were 50 or older.[1]

There are 20 occupations with a 30-percent or higher portion of their workers who are 50-plus. Five occupations – industrial engineers, librarians, broadcast technicians, chief executives and engineering managers – have 40 percent or more who are 50 or older. The first two, industrial engineers and librarians, have over 50 percent. What's more, when the age criteria is dropped to 45, not only do all those 20 occupations exceed 40 percent, so do an additional 21 occupations. Nine occupations then exceed 50 percent, two exceed 60 percent – chief executives and librarians – and two even exceed 70 percent – industrial engineers and broadcast technicians. Replacements in these occupations will be critical as those workers retire.

Some positions, such as chief executives and editors, tend to naturally be filled by advancing employees. Others, such as the writers and authors occupation, are niche jobs. Still others, such as industrial engineers, librarians and budget analysts, need more education and training than the average employee in the information sector or in Alaska.

The 20 occupations with a 30-percent or higher portion of their workers who are 50-plus tend to have small numbers of employees – only two have more than 100 employees – but they are key occupations, both to their organizations and to the economy. It is also interesting that the average wage of those occupations is considerably higher than average for the information sector and this group has a somewhat higher level of non-resident workers.

Non-resident workers

The overall occupational average of non-resident workers in the information sector in 2003 was 11.3 percent, though some occupations were much higher. Six occupations have particularly high rates of non-residents: first-line supervisors/ managers of production and operating workers (28.7 percent), industrial engineers (28.6 percent), art and design workers and others (24.4 percent), management analysts (22.4 percent), computer hardware engineers (21.3 percent) and budget analysts (19.3 percent).[1] All these positions require substantial education, training or experience. These are also occupations, with the exception of computer hardware engineers, with higher levels of older workers.

Wages

Again, data collected on wages in each occupation are not industry-specific. Rather, they are cultivated from all industries and are therefore economy-wide rates. Even so, it is interesting to look at the occupations in the information sector to get an impression of possible wages.

About 60 percent of the occupations in the information sector had average wages equal or above the state average. Management occupations dominated the top spots with seven of the top 15. Two occupations, chief executives and engineering managers, stand out. Their average wage was $54.49 and $47.03 an hour, respectively. The rest of the top spots were filled with engineering, computer, business and financial, and science occupations. Not surprisingly, these are all occupations that typically require higher levels of education or experience or both. They also tend to have higher percentages of older workers.

Computer, engineering, management, electronic and analytical occupations dominated the group with high entry-level wages. Those with the lowest entry-level wages tended to be in office support, retail trade, janitorial, photography, media or printing occupations. Many of these have the lowest overall wages as well.

The future

As a group, these occupations are not expected to grow much in the next few years, as the industry stands now. The result is that occupational opportunities in the information sector will frequently be in the form of replacement openings as the baby boom generation retires.

[1] These data are collected across all industries, thus are not industry-specific.

2 Occupations in the Information Sector

Occupation	Employment Total -- Information Industry (2002)[1]	Employment Total -- All Industries (2002)[2]	Average Hourly Wage [3]	2003 Percentage Nonresident Workers [2]	2003 Workers Age 50+[2]	2003 Workers Age 45+[2]
BACHELOR'S OR ABOVE						
News Analysts, Reporters and Correspondents	236	263	*	10.3	22.2	32.0
General and Operations Managers	215	7,391	33.45	10.9	31.0	48.3
Electronics Engineers, Except Computer	97	150	33.75	11.6	27.6	39.6
Editors	89	154	21.39	4.7	30.7	44.8
Engineering Managers	70	469	47.03	17.9	40.4	59.2
Network Systems and Data Communications Analysts	69	171	26.92	7.8	15.0	33.3
Accountants and Auditors	65	1,795	26.53	6.0	26.2	43.4
Network and Computer Systems Administrators	64	408	28.39	6.9	17.4	29.2
Management Analysts	53	651	31.40	22.4	33.6	50.4
Marketing Managers	51	299	33.10	10.1	28.4	44.7
Chief Executives	50	1,133	54.49	7.9	45.5	65.7
Financial Managers	50	1,424	34.40	6.6	27.8	47.8
Computer Programmers	47	547	28.64	7.6	24.7	46.5
Administrative Services Managers	46	1,204	25.91	6.2	33.6	53.0
Sales Managers	44	605	34.20	6.9	23.5	41.5
Computer Software Engineers, Applications	44	149	32.25	7.5	20.1	37.6
Computer Systems Analysts	41	786	34.99	7.7	25.7	44.1
Art and Design Workers, All Other	41	341	29.03	24.4	25.2	50.4
Advertising and Promotions Managers	39	233	25.63	6.7	25.0	37.5
Graphic Designers	37	255	17.64	10.9	11.3	22.0
Producers and Directors	36	130	18.60	9.1	23.2	40.2
Computer Hardware Engineers	35	36	*	21.3	15.0	30.0
Computer and Information Systems Managers	33	410	36.83	4.6	25.0	45.3
Financial Analysts	31	198	36.69	12.6	16.3	40.5
Database Administrators	30	129	29.42	4.3	25.9	41.1
Market Research Analysts	28	62	34.73	17.5	20.0	37.1
Budget Analysts	28	261	27.98	19.3	32.5	55.6
Business Operations Specialists, All Other	19	2,474	29.73	8.5	34.1	53.1
Human Resources Managers	18	398	*	3.1	29.9	52.8
Training and Development Specialists	18	372	22.50	4.3	27.1	42.1
Librarians	17	445	23.63	3.3	52.2	69.4
Writers and Authors	17	160	23.32	8.8	33.8	49.2
Industrial Engineers	13	84	38.20	28.6	52.9	70.6
Technical Writers	12	48	23.58	9.9	24.3	45.9
Compensation, Benefits, and Job Analysis Specialists	10	146	24.24	3.2	30.4	48.9
Computer Software Engineers, Systems Software	10	64	34.37	9.8	13.8	26.4
ASSOCIATE OR SIGNIFICANT POSTSECONDARY VOCATIONAL TRAINING						
Computer Support Specialists	127	886	21.92	7.1	13.5	25.7
Electrical and Electronic Engineering Technicians	97	414	30.39	16.3	34.3	53.4
Electrical and Electronics Repairers, Commercial and Industrial Equipment	52	272	27.37	18.3	30.7	48.2
Broadcast Technicians	45	48	16.97	2.5	51.9	73.8
Desktop Publishers	22	37	18.62	5.6	11.8	17.6
Electrical and Electronics Drafters	17	72	27.61	5.7	17.6	32.4
WORK EXPERIENCE IN A RELATED OCCUPATION						
First-Line Supervisors/Managers of Office and Administrative	181	3,066	22.82	7.1	27.5	45.9
First-Line Supervisors/Managers of Mechanics, Installers, Repairers	106	1,162	32.31	9.5	35.7	55.8
Managers, All Other	92	4,231	31.45	10.2	28.9	48.2
First-Line Supervisors/Managers of Non-Retail Sales Workers	38	540	28.69	5.3	16.4	32.3
First-Line Supervisors/Managers of Production and Operating Workers	27	851	26.15	28.7	30.5	49.3
Purchasing Agents, Except Wholesale, Retail, and Farm Products	24	531	25.50	5.0	32.1	49.5
Food Service Managers	17	847	17.00	10.8	22.6	39.4
First-Line Supervisors/Managers of Retail Sales Workers	16	3,401	18.00	8.9	18.6	31.4
First-Line Supervisors/Managers of Personal Service Workers	10	379	18.42	11.5	27.5	40.1

Occupations in the Information Sector (continued) 2

Occupation	Employment Total -- Information Industry (2002)[1]	Employment Total -- All Industries (2002)[2]	Average Hourly Wage [3]	2003 Percentage Nonresident Workers [2]	2003 Workers Age 50+[2]	2003 Workers Age 45+[2]
MEDIUM OR LONG-TERM TRAINING OR EXPERIENCE						
Customer Service Representatives	702	1,981	16.27	11.4	13.9	23.6
Telecom Equipment Installers and Repairers, Except Line Installers	484	681	27.01	7.8	25.5	44.1
Telecommunications Line Installers and Repairers	240	335	26.22	15.1	20.3	36.3
Advertising Sales Agents	237	286	22.81	11.5	21.6	35.7
Bookkeeping, Accounting, and Auditing Clerks	150	5,312	16.90	6.6	23.8	37.8
Announcers	126	218	*	10.2	17.3	29.1
Executive Secretaries and Administrative Assistants	114	3,251	18.47	7.3	23.2	37.2
Sales Reps, Wholesale and Manufacturing, Except Technical/Scientific Products	102	1,780	22.41	5.6	19.1	35.5
Sales and Related Workers, All Other	83	1,156	15.15	14.1	15.1	23.1
Dispatchers, Except Police, Fire, and Ambulance	79	653	18.07	9.3	22.7	40.1
Sales Reps, Wholesale and Manufacturing, Technical and Scientific Products	72	263	25.92	8.1	17.5	32.4
Maintenance and Repair Workers, General	67	3,514	19.28	13.1	28.1	45.3
Photographers	48	135	17.46	15.3	5.9	13.1
Printing Machine Operators	46	190	19.26	9.5	18.5	36.5
Paper Goods Machine Setters, Operators, and Tenders	41	41	*	0.0	0.0	25.0
Audio and Video Equipment Technicians	40	91	14.21	8.8	9.3	14.4
Media and Communication Workers, All Other	38	258	17.30	15.5	22.7	34.8
Computer Operators	38	244	18.81	9.5	19.8	36.6
Camera Operators, Television, Video, and Motion Picture	37	49	12.30	5.3	2.6	7.9
Secretaries, Except Legal, Medical, and Executive	31	3,886	14.89	6.8	25.2	40.6
Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	31	165	*	*	*	*
Prepress Technicians and Workers	30	77	16.71	3.1	19.0	33.3
Material Moving Workers, All Other	25	768	17.56	13.0	21.8	38.6
Interpreters and Translators	22	68	23.72	17.0	35.3	45.1
Job Printers	21	53	16.19	17.9	30.4	43.5
Payroll and Timekeeping Clerks	16	651	18.16	6.4	21.1	38.6
Photographic Process Workers	16	64	9.24	19.2	7.0	18.6
Media and Communication Equipment Workers, All Other	15	78	26.47	8.1	17.1	22.9
Billing and Posting Clerks and Machine Operators	14	1,217	15.79	5.9	17.9	29.5
Data Entry Keyers	13	324	14.23	16.1	12.8	21.5
SHORT-TERM TRAINING OR EXPERIENCE						
Office Clerks, General	204	7,324	14.23	10.8	20.4	32.2
Telephone Operators	142	150	*	5.3	26.4	39.2
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	123	1,072	8.50	12.3	10.1	18.5
Order Clerks	112	383	15.07	6.9	15.5	27.2
Ushers, Lobby Attendants, and Ticket Takers	81	95	8.03	19.1	4.8	5.9
Cashiers	61	6,721	10.50	14.8	12.0	19.2
Receptionists and Information Clerks	61	3,237	12.46	12.4	16.7	25.7
Production, Planning, and Expediting Clerks	61	435	20.81	8.4	20.1	33.0
Machine Feeders and Offbearers	50	146	9.28	13.0	20.2	25.0
Door-To-Door Sales Workers, News and Street Vendors, and Related Workers	46	239	9.33	14.7	17.4	32.1
Motion Picture Projectionists	39	39	10.50	0.0	0.0	0.0
Bill and Account Collectors	38	587	17.34	11.2	18.2	28.2
Retail Salespersons	36	8,476	12.78	15.4	15.1	23.4
Office and Administrative Support Workers, All Other	33	1,600	15.91	8.4	19.4	30.4
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	27	5,751	12.24	11.4	26.1	39.6
Couriers and Messengers	27	234	13.84	9.7	17.2	29.4
Driver/Sales Workers	23	896	13.51	14.7	15.6	25.1
Shipping, Receiving, and Traffic Clerks	11	1,289	15.61	9.7	15.6	27.8

Notes:
[1] Occupations with employment less than 10 workers not included.
[2] Data across all industries.
[3] May 2004 wages - Occupational Employment Statistics (OES) Program
* Data not available.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Alaska Employment Scene

By Neal Gilbertsen,
Economist

Of Fish and Farms

In Alaska, summer is the season when a young man's fancy turns to thoughts of …salmon. Anglers emerge from their winter seclusion armed with rods, reels and exaggerated memories of the one that got away. Commercial fishermen repair boats and nets and brace themselves against the exhausting hours that will be demanded by the coming fishery. As the 2005 season began, there seemed to be some support for the enthusiastic optimism that is always required of participants.

In May 2005, for the first time in nearly 30 years, Southeast Alaska saw a drift net harvest of king salmon on the Taku and Stikine Rivers. While the ex-vessel price of over $3.00 per pound could not compare with the $6.75 early Copper River kings brought, it was a welcome change for an industry long troubled by low prices.

At the time of this writing, Bristol Bay seems to be approaching the predicted harvest of 26 million sockeye, while catches elsewhere in the state also appear healthy. Preliminary prices paid to fishermen also seem to be up slightly. In part this is due to changes in exchange rates that have seen the Canadian dollar strengthen from earlier years, raising the price of farmed salmon to U.S. consumers and allowing similar increases for the Alaskan product.

Marketing efforts have also played a role. A growing awareness of the health benefits of wild salmon has led some buyers to eschew farmed fish and some major outlets like Costco have been featuring Alaska wild salmon. Articles in national publications such as The New York Times have promoted its virtues and noted the effrontery of farmed substitutes masquerading as the more desirable natural product. On a less positive note for fishermen, the U.S. dollar has strengthened against the yen and euro since the beginning of the year and that will raise the price of U.S. salmon exports.

Overall, ex-vessel prices in most salmon fisheries remain low, as does participation. The year 2004 saw only 7,179 salmon permits fished compared to the 10,488 fished in 1988, and 2005 is not expected to show a significant increase. A large part of the decline in the number of people buying crew licenses, which has fallen from 35,207 in 1988 to 18,021 in 2004, can be linked to the reduction in effort in the salmon fisheries. Similarly, seafood processing employment has fallen from the annual average of 10,300 jobs in 1994 to 8,500 a decade later. In order to compete with salmon from low-wage countries, at least one Alaska processor, Trident, is now sending some of its salmon to China for filleting.

While the preliminary data for 2005 is encouraging, there are reasons for concern about the long-term outlook.

According to the National Marine Fisheries Service, imports accounted for over 70 percent of the 4.7 billion pounds of seafood Americans consumed in 2004. This resulted in a $7 billion "seafood trade deficit." More than 40 percent of these imports were farmed products. In order to address this shortfall, the National Oceanic and Atmospheric Administration has funded research and drafted legislation involving offshore aquaculture.

On June 7, 2005, Senators Ted Stevens of Alaska and Daniel Inouye of Hawaii introduced the National Offshore Aquaculture Act of 2005. This measure would give the U.S. Secretary of Commerce the authority to issue permits for offshore aquaculture operations in federal waters. Stevens and Inouye also attached an amendment

that would allow states to opt out by prohibiting such ventures in their adjacent Exclusive Economic Zone.

The proposed legislation is not popular in Alaska's fishing community and it seems likely that should the amendment pass, Alaska would not allow offshore farms. Still, this would do little to insulate Alaska's fisheries from competition from farms located off the shores of California, Maine or Washington. Moreover, offshore aquaculture projects would not be confined to salmon and would likely impact Alaska's other fisheries.

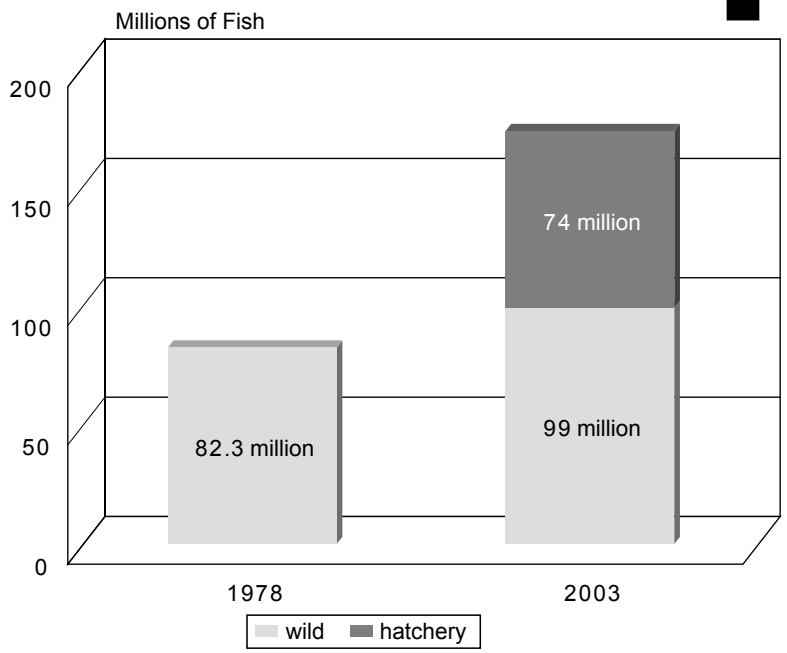
Even if the legislation fails, the fact remains that the British Columbia government has lifted the moratorium on net-cage salmon farms. While this policy cost Canada's Liberal Party seats in fishing communities, it retained a majority in recent elections and is expected to continue its support of aquaculture expansion. Most of the new farms will be located in the northern region, near the Alaska border. In addition, the Canadian government has approved 37 black cod farming sites around Vancouver Island that will be supplied by commercial sablefish hatcheries already in operation.

In the late 1970s, Alaska salmon fishermen faced the threat of ocean-ranched salmon. Not only had Japan invested heavily in hatchery projects, but American companies like Domsea Farms -- originally owned by Union Carbide and later acquired by Campbell Soup -- were also entering the market. Alaska responded by embracing the technology while rejecting the economic paradigm. The Fisheries Rehabilitation Enhancement and Development (FRED) division of the Alaska Department of Fish and Game developed hatcheries, while legislation was enacted that allowed regional association and nonprofit hatchery production. By the mid-1990s, the FRED hatcheries had been transferred to regional associations and nonprofit operators. According to Fish and Game reports, by 2003 hatchery production accounted for over 80 million of the 178 million fish harvested that year. (Exhibit 1.)

When the challenge of pen-reared salmon became apparent, Alaska responded in a very different way. Rather than capturing the technology, the state simply prohibited all finfish farming in Alaskan waters. While this may have been a wise biological decision, it did little to alter the economic reality of a dramatic increase in worldwide production. Norwegian, Canadian and Chilean farmed fish flooded markets traditionally dominated by Alaskan fish, while prices for both plummeted.

Whether Alaska chooses to allow offshore aquaculture or to prohibit it may ultimately be irrelevant. If the technology proves viable, Alaskan fishermen will be forced to deal with national and global markets supplied by such ventures, whether they are located near Kodiak, Vancouver or San Francisco. The more difficult challenge would seem to involve devising a policy that promotes wild stock fisheries while acknowledging the inevitability of increased farmed production.

Alaska Salmon Harvest 1



Note: The year 1978 was selected because it is the last year preceding measurable hatchery returns and 2003 is the year with the most recent data available.

Source: Alaska Department of Fish & Game

July Employment up 8,000

Total wage and salary employment estimates for July showed a monthly increase of 8,000 jobs. (See Exhibit 2.) Seafood processing employment accounted for most of the growth, adding 6,900 jobs as the salmon fisheries hit full stride. The July job count was about 4,900 higher than in July 2004, which equates to a 1.5 percent growth rate, and unemployment remained below previous year's levels. (See Exhibit 3.)

2 Nonfarm Wage and Salary Employment

Alaska	preliminary 7/05	revised 6/05	revised 7/04	Changes from: 6/05	Changes from: 7/04
Total Nonfarm Wage & Salary[1]	331,700	323,700	326,800	8,000	4,900
Goods Producing	54,500	46,200	53,000	8,300	1,500
Service-Providing	277,200	277,500	273,800	-300	3,400
Natural Resources & Mining	10,700	10,600	10,500	100	200
Logging	500	500	500	0	0
Mining	10,200	10,100	10,000	100	200
Oil & Gas Extraction	8,500	8,500	8,500	0	0
Construction	22,200	20,900	21,300	1,300	900
Manufacturing	21,600	14,700	21,200	6,900	400
Wood Product Mfg	400	400	400	0	0
Seafood Processing	17,600	10,700	17,200	6,900	400
Trade, Transportation, Utilities	68,100	67,000	67,200	1,100	900
Wholesale Trade	6,700	6,500	6,600	200	100
Retail Trade	38,100	37,800	37,200	300	900
Food & Beverage Stores	6,300	6,300	6,500	0	-200
General Merchandise Stores	9,800	9,700	9,600	100	200
Trans/Warehousing/Utilities	23,300	22,700	23,400	600	-100
Air Transportation	6,800	6,900	7,000	-100	-200
Truck Transportation	3,400	3,300	3,300	100	100
Information	7,100	7,000	6,900	100	200
Telecommunications	4,200	4,300	4,100	-100	100
Financial Activities	15,300	15,300	15,000	0	300
Professional & Business Svcs	25,000	24,800	24,700	200	300
Educational & Health Svcs	36,100	36,200	34,600	-100	1,500
Health Care	26,300	26,400	24,900	-100	1,400
Leisure & Hospitality	37,900	35,700	36,900	2,200	1,000
Accommodation	11,500	10,600	11,400	900	100
Food Svcs & Drinking Places	21,600	20,600	20,900	1,000	700
Other Services	11,600	11,400	11,800	200	-200
Government[2]	76,100	80,100	76,700	-4,000	-600
Federal Government[3]	17,800	17,800	18,100	0	-300
State Government	23,200	23,000	23,500	200	-300
State Govt Education	5,600	5,700	5,400	-100	200
Local Government	35,100	39,300	35,100	-4,200	0
Local Govt Education	16,200	20,700	16,100	-4,500	100
Tribal Government	4,300	4,100	4,600	200	-300

Notes

[1]Excludes self-employed workers, fishermen, domestics and unpaid family workers as well as agricultural workers.

[2] Includes employees of public school systems and the University of Alaska.

[3] Excludes uniformed military.

[4] Metropolitan Statistical Area

Prepared in cooperation with the U.S. Dept. of Labor, Bureau of Labor Statistics. Regional data prepared in part with funding from the Employment Security Division.

Source: Alaska Department of Labor & Workforce Development, Research and Analysis

3 Unemployment Rates By borough and census area

NOT SEASONALLY ADJUSTED	prelim. 7/05	revised 6/05	revised 7/04
United States	5.2	5.2	5.7
Alaska Statewide	5.8	6.5	6.6
Anchorage/Mat-Su (MSA)[4]	5.3	5.6	6.0
Municipality of Anchorage	5.0	5.4	5.7
Mat-Su Borough	6.5	6.7	7.2
Gulf Coast Region			
Kenai Peninsula Borough	6.3	7.2	7.4
Kodiak Island Borough	6.1	8.6	6.8
Valdez-Cordova	6.1	7.3	6.6
Interior Region			
Denali Borough	2.0	2.5	2.5
Fairbanks North Star Bor. (MSA)[4]	5.1	5.8	5.8
Southeast Fairbanks	8.4	8.8	9.7
Yukon-Koyukuk	10.2	11.0	10.5
Northern Region			
Nome	11.9	13.0	12.4
North Slope Borough	9.5	9.9	11.5
Northwest Arctic Borough	14.1	15.3	14.7
Southeast Region			
Haines Borough	4.3	6.8	5.2
Juneau Borough	4.8	5.2	5.2
Ketchikan Gateway Borough	4.7	5.9	5.3
Prince of Wales-Outer Ketchikan	9.9	10.5	11.9
Sitka Borough	4.5	5.1	5.1
Skagway-Hoonah-Angoon	6.7	7.5	7.8
Wrangell-Petersburg	6.8	9.0	9.0
Yakutat Borough	4.9	7.6	4.4
Southwest Region			
Aleutians East Borough	6.2	9.4	6.9
Aleutians West	4.2	6.4	5.3
Bethel	13.0	13.7	14.0
Bristol Bay Borough	2.2	4.2	2.3
Dillingham	9.0	11.2	9.0
Lake & Peninsula Borough	2.9	4.2	5.2
Wade Hampton	25.4	27.9	25.1
SEASONALLY ADJUSTED			
United States	5.0	5.0	5.5
Alaska Statewide	6.6	6.3	7.4

2004 Benchmark

The official definition of unemployment excludes anyone who has not actively sought work in the four-week period up to and including the week that includes the 12th of the reference month. Many individuals do not meet this definition because they have not conducted an active job search due to the scarcity of employment opportunities in rural Alaska.

4 Nonfarm Wage and Salary Employment By Region

	preliminary 7/05	revised 6/05	revised 7/04	Changes from: 6/05	Changes from: 7/04	Percent Change: 6/05	Percent Change: 7/04
Anch/MatSu (MSA)[4]	168,600	169,200	165,300	-600	3,300	-0.4%	2.0%
Gulf Coast	34,150	32,100	33,950	2,050	200	6.4%	0.6%
Interior	48,600	47,300	47,700	1,300	900	2.7%	1.9%
Northern	15,250	15,650	15,550	-400	-300	-2.6%	-1.9%
Southeast	41,200	39,100	41,200	2,100	0	5.4%	0.0%
Southwest	23,500	19,900	23,200	3,600	300	18.1%	1.3%

For more current state and regional employment and unemployment data, visit our Web site.

almis.labor.state.ak.us

Employer Resources

Established in 1951, the Fishermen's Fund provides for the treatment and care of Alaska-licensed commercial fishermen who have been injured while fishing on shore or off shore in Alaska. Benefits from the Fund are financed from revenue received from each resident and nonresident commercial fisherman's license and permit fee. The Commissioner of the Alaska Department of Labor and Workforce Development oversees administration of the program with the assistance of the Fishermen's Fund Advisory and Appeals Council.

Crewmembers with injury or illness directly connected to operations as commercial fishermen must hold valid commercial fishing licenses or limited entry permits before the time of injury or illness to qualify for benefits.

For more information go to the Division of Workers' Compensation, Fishermen's Fund home page at www.labor.state.ak.us/wc/ffund.htm or call toll-free 1-888-520-2766.