

A Trends Profile— The Bristol Bay Region*

by Neal Fried and Brigitta Windisch-Cole

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The Lake and Peninsula Borough, Bristol Bay Borough, and Dillingham Census Area combine to form the Bristol Bay region, which takes its name from Bristol Bay, the largest bay in the southern part of the Bering Sea. This region surrounds the richest salmon fishing grounds in the world. Its area encompasses nearly 43,000 square miles – nearly the same size as the state of Ohio. Although it is large, this region is one of the most remote and sparsely populated areas of the state. From Anchorage, the region is accessible by air and in most cases, by boat.

A small population with many communities

The total resident population for the region in 1996 was 7,568. (See Table 1.) The region includes 31 communities that can be found along the coast, up the rivers, and on the shores of its large lakes. Some of these communities evolved

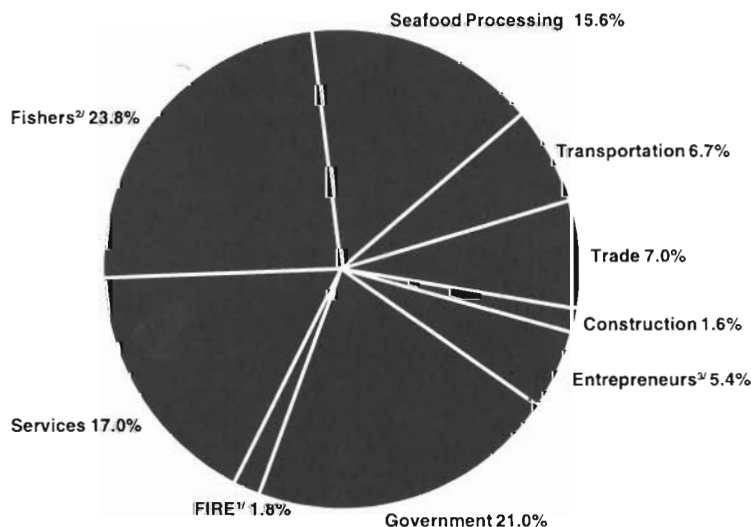
from traditional summer fish camps or winter villages that have been inhabited for thousands of years. Others developed around trading posts, canneries, churches, schools and governmental centers. The largest community in the region is Dillingham with a population of 2,226. It is home to one of the two major airports that connect the region to the rest of the state. It is also a fishery, health care, transportation, government and commercial center for much of the region. Within the Dillingham Census Area are 10 other communities. Except for the city of Dillingham, no other community in the region has a resident population that exceeds 800. However, during the summer months, the population of the area more than doubles.

Within the narrow boundaries of the Bristol Bay Borough lie the three other larger communities in the region. They include King Salmon and Naknek, which are connected by a 15-mile road, and South Naknek, which lies just across the river. Combined, these three communities form the other major commercial, fishery, administrative and population center of the region. King Salmon is the other transportation hub that connects the region to the outside world. The Bristol Bay Borough is also the oldest borough in the state, formed in 1962. Although the Lake and Peninsula Borough represents the largest geographical area in the region, it is comprised of 17 smaller villages with a total population of 1,852. Nondalton is the largest community with a population of 237. (See Table 1.)

In the 1990s, the region's population has grown more slowly than the rest of the state's. The Bristol Bay Borough lost popu-

Figure • 1

Where the Jobs were in 1996 in the Bristol Bay Region



1/ Finance, Insurance and Real Estate.

2/ Estimate: based on number of permits and crew factors.

3/ Estimate: based on self-employment data from the U.S. Census.

Source: Alaska Department of Labor, Research and Analysis Section.

lation because of the closure of King Salmon Air Force Base in 1994. Population in the Dillingham area and the Lake and Peninsula Borough also grew at a slower rate than in the rest of the state. With the exception of the Bristol Bay Borough, the residents of the area are considerably younger than elsewhere. (See Table 2.) Alaska Natives make up 72 percent of the region's population. They include Yup'ik Eskimos, Athabascans, and Aleuts. The balance of the population is largely white. Smaller communities are predominately

Native Alaskan, while the larger communities have a larger portion of non-Native population.

A healthy fishery

Unlike many fisheries which are struggling, Bristol Bay's fishery is one of the healthiest in the world. In over 100 years of commercial salmon fishing, the harvest exceeded 200 million pounds five times. Fishers landed four of these bountiful

Table • 1

The Bristol Bay Region's Population

	1990	1991	1992	1993	1994	1995	1996	% Change 1990-1996
Bristol Bay Borough	1,410	1,468	1,560	1,561	1,280	1,204	1,254	-11.1
King Salmon	696	739	802	812	510	438	467	-32.9
Naknek	575	579	602	605	614	615	627	9.0
South Naknek	136	147	153	141	153	148	157	15.4
Rest of Borough	3	3	3	3	3	3	3	0.0
Dillingham Census Area	4,012	4,141	4,198	4,298	4,260	4,371	4,462	11.2
Aleknagik	185	203	192	176	167	180	190	2.7
Clarks Point	60	55	71	55	61	62	66	10.0
Dillingham	2,017	2,118	2,118	2,168	2,147	2,188	2,226	10.4
Ekuk	3	3	3	3	3	3	3	0.0
Ekwok	77	76	78	94	88	84	84	9.1
Koliganek	181	190	192	196	206	211	210	16.0
Manokotak	385	392	398	419	404	405	396	2.9
New Stuyahok	391	387	406	412	418	420	442	13.0
Portage Creek	5	5	5	6	6	6	6	20.0
Togiak	613	609	639	668	656	706	740	20.7
Twin Hills	66	72	65	70	74	75	67	1.5
Rest of Area	29	31	31	31	30	31	32	10.3
Lake and Peninsula Borough	1,668	1,739	1,797	1,794	1,802	1,824	1,852	11.0
Chignik	188	178	165	178	156	140	128	-31.9
Chignik Lagoon	53	55	58	61	61	71	80	50.9
Chignik Lake	133	130	135	132	144	154	152	14.3
Egegik	122	126	129	123	135	140	139	13.9
Igiugig	33	31	44	42	40	48	48	45.5
Iliamna	94	95	95	97	101	97	103	9.6
Ivanof Bay	35	32	41	34	32	28	28	-20.0
Kokhonak	152	152	156	157	164	159	166	9.2
Levelock	105	105	109	112	104	109	111	5.7
Newhalen	160	160	164	165	172	168	175	9.4
Nondalton	178	214	226	227	232	235	237	33.1
Pedro Bay	42	53	51	48	41	49	45	7.1
Perryville	108	118	100	106	108	102	101	-6.5
Pilot Point	53	65	75	71	75	73	80	50.9
Port Alsworth	55	54	54	51	56	64	64	16.4
Port Heiden	119	130	134	132	123	131	147	23.5
Ugashik	7	5	5	5	5	5	5	-28.6
Rest of Area	31	36	56	53	53	51	43	38.7
Bristol Bay Region	7,090	7,348	7,555	7,653	7,342	7,399	7,568	6.7
Communities >500	3,901	4,045	4,161	4,253	3,927	3,947	4,060	4.1
Communities <500	3,189	3,303	3,394	3,400	3,415	3,452	3,508	10.0

Source: Alaska Department of Labor, Research and Analysis Section.

catches in the 1990s. (See Table 3.) The 1995 harvest tipped the scales with over 251 million pounds of salmon, setting the record catch for the Bay. Since a near collapse of the fishery in the early 1970s, sound conservation measures and improved management practices have dramatically increased the Bay's harvest.

Fishing reigns king

More than two decades ago, economist George Rogers wrote of the Bristol Bay region, "Since the beginning of historic time until the present the fisheries and the fur resources have been the source of income and employment." Little has changed. Though the commercial importance of the fur trade has waned, it remains an important subsistence resource. Fisheries still dominate both the subsistence and the cash economy of the region.

The sockeye (red) salmon fishery controls the economic health of the region. In 1996, over 95 percent of the salmon harvested in Bristol Bay were sockeye. The remaining five percent of the catch included the other four salmon species. Bristol Bay is home to the largest red salmon fishery in the world. During certain years, more than half of all sockeye harvested in the world comes out of the Bay. In 1996, Bristol Bay's salmon harvest represented 17 percent of the salmon (all species) landed in the state and 38 percent of the total harvest value. The number of large lakes connected to the Bay by its many rivers has allowed this giant fishery to evolve. Unlike other salmon, sockeye depend exclusively on lakes for rearing.

Herring fishery is also important

Togiak is the site of the largest herring harvest in the state. In 1996, herring fishers landed almost

50 percent of Alaska's total harvest in Togiak. This fishery typically lasts for only a few days, or even hours. In 1996, for example, in three days, the purse seine fleet fished a total of 145 minutes and netted the majority of the \$14.4 million catch. This early May fishery has become an important source of income for some Bay residents. Unlike the salmon fishery, it is an open entry fishery,

Table • 2

A Snapshot of Bristol Bay Region's Current Statistics

	Alaska	Dillingham Census Area	Bristol Bay Borough	Lake and Peninsula Borough
Where 1.2% of Alaska's population resides...	607,800	4,462	1,254	1,852
Population Density:				
Persons Per Square Mile	1.07	0.24	2.42	0.08
The majority of the population is Native Alaskan				
White	74.6%	21.2%	53.8%	23.6%
Native American	16.5%	78.5%	42.1%	75.6%
Black	4.5%	0.1%	2.6%	0.2%
Asian & Pacific Islanders	4.4%	0.2%	1.5%	0.6%
Hispanic Origin	4.3%	1.6%	12.7%	1.7%
Most residents are younger...				
Median Age (1996)	30.9	27.7	32.5	27.6
Under 20 (1996)	34.1%	41.3%	34.8%	42.1%
Ages 20 to 64	61.0%	53.8%	61.3%	52.7%
Age 65 years and older	4.9%	4.9%	3.9%	5.2%
Income disparity exists....				
Median Household Income (1993) 1/	\$39,433	\$38,284	\$53,062	\$31,983
Personal per capita income (1994) 2/	\$23,437	\$22,323	\$31,950	\$18,803
Annual average monthly earnings (1995)	\$2,691	\$2,251	\$2,556	\$1,739
...and poverty rates are quite high				
All persons living in poverty (1993) 1/	11.4%	21.2%	5.4%	26.8%
And related Children 5 to 17	13.7%	26.2%	5.6%	29.4%
Annual Avg. Unemployment Rates for 1996				
Labor Force Participation Estimate (1996)	7.8%	7.9%	9.1%	7.7%
	72.7%	60.4%	55.5%	52.3%
Educational Attainment, Age 25+ (1990) 1/				
Percent High School graduates	86.6%	82.5%	89.8%	60.7%
Percent Bachelors degree or higher	23.0%	21.3%	18.9%	14.40%

1/ Source: U.S. Department of Commerce, Bureau of the Census.
2/ Source: U.S. Department of Commerce, Bureau of Economic Analysis.
Source: Department of Labor, Research and Analysis Section.

which means anyone can fish. Boats from all over the state and some from out of state travel to the Togiak fishing grounds—in 1996, about 730 boats joined the frenzy. The Togiak herring fishery is best described as a derby, where boats fiercely compete to intercept the massive schools of herring that are ready to spawn.

Until recently, the shellfish, ground fish and halibut harvests in the Bay have not been important because these fisheries take place in the deeper waters of the Bering Sea. In past years, only a few local fishers participated in these pot, longline and trawl fisheries. Therefore, fortunes earned in the close-by Bering Sea hardly benefited the residents and the communities of the Bristol Bay region. However, with the onset of Community Development Quotas, this is beginning to change.

Community Development Quotas link region to Bering Sea riches

In 1992, the Community Development Quota (CDQ) program was developed to ensure the participation of coastal communities in the deep water Bering Sea groundfish harvest. The program provides six organizations in Western Alaska with 7.5% of the pollock harvest quota. In the Bristol Bay region, the Bristol Bay Economic Development Corporation (BBEDC) manages this quota and contracts fishing with a trawler fishing vessel. During the past five years, BBEDC has received over \$16 million in royalties from the pollock harvest and has redistributed these proceeds among the 14 participating Bristol Bay communities. Their residents benefit through scholarships, vocational training, adult and general education programs and technical grants. The organization also negotiates employment contracts with fish processing companies for the

Table • 3

The Bay's Harvest Records

	Salmon in pounds ^{1/}	Salmon harvest value	Average price per pound	Herring in short tons ²	Herring harvest value	Average price per ton	Total harvest value
1978	88,686,446	\$55,462,419	\$0.63	7,735	\$2,629,734	\$340	\$58,092,153
1979	138,812,160	139,209,072	1.00	11,178	7,074,667	633	146,283,739
1980	153,834,281	83,979,899	0.55	17,645	3,365,405	191	87,345,304
1981	175,327,104	132,886,366	0.76	12,298	4,222,645	343	137,109,011
1982	117,323,624	79,384,471	0.68	19,682	6,110,483	310	85,494,954
1983	227,045,607	142,748,987	0.63	25,959	10,905,476	420	153,654,463
1984	168,870,715	103,310,376	0.61	19,257	7,191,516	373	110,501,892
1985	145,952,071	118,687,380	0.81	25,233	12,921,199	512	131,608,579
1986	107,357,917	140,697,751	1.31	16,120	8,799,848	546	149,497,599
1987	108,118,780	139,346,532	1.29	15,404	10,864,619	705	150,211,151
1988	104,338,836	194,244,590	1.86	14,090	14,558,654	1,033	208,803,244
1989	174,719,235	209,721,733	1.20	12,168	5,133,111	422	214,854,844
1990	202,558,755	214,175,094	1.06	12,253	8,065,065	658	222,240,159
1991	159,189,393	115,537,744	0.73	14,970	8,197,218	548	123,734,962
1992	193,139,483	208,651,349	1.08	25,782	9,085,825	352	217,737,174
1993	250,698,286	167,076,309	0.67	17,925	5,307,577	296	172,383,886
1994	205,937,958	197,536,981	0.96	30,293	9,139,006	302	206,675,987
1995	251,471,652	195,972,456	0.78	26,504	22,257,592	840	218,230,048
1996 ³	194,300,000	140,870,000	0.73	24,063	14,400,000	598	155,270,000

^{1/}Includes drift gillnet and set net fisheries.
^{2/}Bait and sac roe herring (purse seine and gill net fisheries).
^{3/}Preliminary harvest results 1996, excluding bait herring fishery.

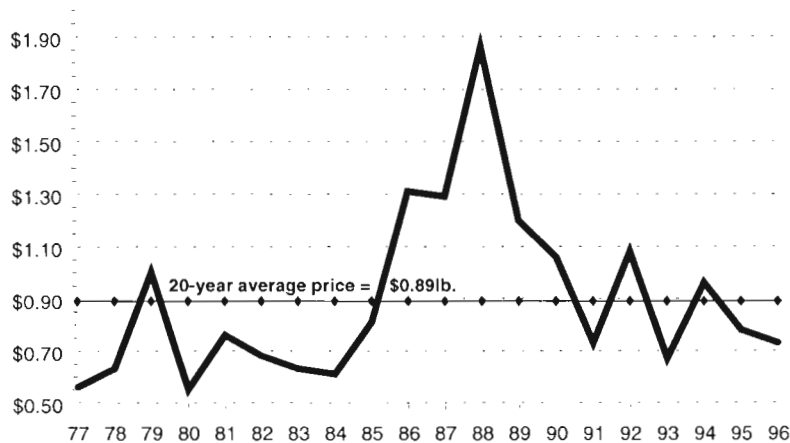
Source: Department of Fish and Game, Commercial Fisheries Entry Commission.

Figure • 2

Salmon Prices peaked in 1988 for the Bristol Bay's Harvest

Average harvest prices per pound

Source: Alaska Department of Fish and Game, Commercial Fishery Entry Commission.



In 1995, a new quota share program evolved for the sablefish and halibut fisheries. From this program, BBEDC received quota shares for two distinct fishery management regions. The organization contracts fishing in one quota area and divides the other share among interested residents. In 1996, 16 CDQ permit holders took advantage of the program and landed a \$79,000 catch. These new programs give Bristol Bay residents an opportunity to gain experience and to access a new fishery.

residents of those communities. While in 1992 only seven locals found jobs through the CDQ program, in 1996, nearly 130 Bristol Bay residents held payroll jobs through BBEDC's involvement, earning \$748,000.

Under the terms of the current regulations, the community quota shares are guaranteed for only a specific time period. Those harvest shares may change when the species-specific quota allocations are renegotiated. Currently, new share quota programs are evolving for other fisheries such as crab and other groundfish.

Table • 4

Bristol Bay Region's Annual Average Monthly Wage and Salary Employment 1988-1996

	1988	1989	1990	1991	1992	1993	1994	1995	1996 ¹
Total	3,193	3,688	3,425	3,546	3,708	3,785	3,878	3,820	3,683
Private Sector	2,196	2,599	2,319	2,391	2,539	2,576	2,691	2,702	2,591
Mining	2	5	0	0	8	8	10	2	3
Construction	45	60	18	37	58	61	61	75	82
Manufacturing	1,014	1,273	1,135	1,110	1,121	1,005	1,010	1,038	815
Seafood Processing	995	1,261	1,128	1,103	1,116	1,005	1,010	1,038	813
Trans., Comm., & Util.	316	358	235	292	337	357	343	291	346
Trade	282	313	297	232	244	312	336	357	365
Wholesale	39	43	32	17	18	12	16	18	22
Retail	243	270	265	215	226	300	320	339	343
Finance, Ins., & Real Estate	94	73	67	68	81	76	104	99	96
Services	439	517	567	651	686	753	828	845	884
Non classified	2	0	0	1	4	4	0	0	0
Government	997	1,090	1,106	1,155	1,169	1,210	1,187	1,113	1,092
Federal	174	178	177	186	211	228	201	154	143
State	102	116	109	103	99	97	98	96	102
Local	721	796	820	866	859	885	888	863	847

¹1996 annual average monthly employment data based on fourth quarter 1995 thru third quarter 1996. Note: Totals may not add due to rounding.

Source: Alaska Department of Labor, Research and Analysis Section.

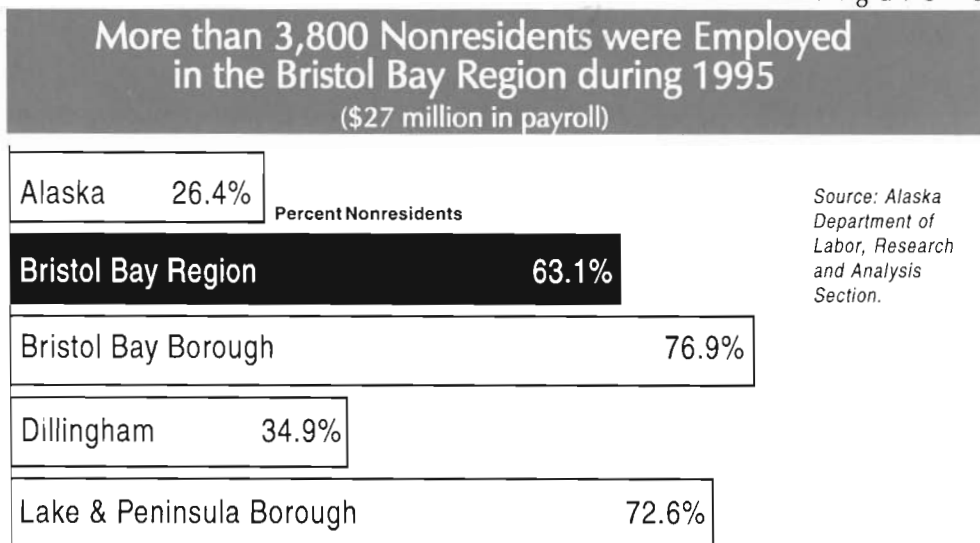
Fishing drives employment opportunities

In 1996, almost 40 percent of direct employment in the Bristol Bay Region was in fisheries. (See Figure 1.) Said differently, nearly every other job in the Bay is either in harvesting or processing fish. The impact on employment indirectly related to the fishing industry, such as in transportation, retail, services, and the public sector, is less apparent, as is the multiplier effect the industry's expenditures have on the region's economy. If these factors were all included, far more than half of the employment in the Bay could be attributed to the fish harvest.

Beside the overall impact of the fishing industry on the regional economy, another unique characteristic of the regional workforce is the incredible story behind the actual work activity. Since the workforce numbers are based on annual averages, they mask the fact that nearly all of this fishing activity takes place during a six-to-eight-week period. A huge fish harvesting/processing army mobilizes for two months and then becomes almost dormant. This makes the region's workforce the most seasonal in the state. For example, in 1996 the annual average employment for fish processing was 813, but during the peak employment month of July it reached 3,139. Over a third of the region's fish processing effort occurs during that one month.

Total employment trends in the region also follow this strong seasonal pattern. In 1996, the annual average wage and salary employment for the region was 3,683, but the peak July employment was nearly double that number. If we were to include fish harvesting employment, the seasonality would even be more accentuated. Regrettably, harvesting employment is only produced intermittently. However, by multiplying the average number of crew members per boat times the number of boats fishing, the size of the short-lived Bristol Bay salmon fisher workforce grows to an estimated 6,300. Just like fish processing workers, the majority of the fishers typically arrive in the latter part of June and remain until early August.

Figure • 3



Source: Alaska Department of Labor, Research and Analysis Section.

Table • 5

Salmon Permit Holders in the Bristol Bay Region in 1995

Type of Permit	Total Number of Permits Issued	Non Residents	Alaska Residents	Bristol Bay Resident Permit Holders	Permits Owned by Bristol Bay Residents
Drift Gillnet	1,888	915	973	459	24.3%
Salmon Set Net	1,019	253	758	441	43.3%
Total	2,907	1,168	1,731	900	31.0%

Source: Alaska Department of Fish and Game, Commercial Fisheries Entry Commission.

During the past decade, employment in the fishing industry was relatively static, although harvest levels trended upwards. Because salmon harvesting became a limited entry fishery in 1975, the number of fishers allowed to harvest in this region became virtually restricted. Not only are the number of entrants fixed in this fishery, but the boat size and gear type used in the Bay are regulated as well.

More surprising is the fact that fish processing employment changes little over time. In 1988, the salmon harvest in the Bay was 104 million pounds versus 251 million pounds in 1995 (See Table 3.), but processing employment was nearly identical in both years. (See Table 4.) One reason this occurs is that the size of the existing processing plants puts a cap on employment. The constricted length of the season and unpredictable harvest levels partially explain why there is not more investment in additional fish processing

plants in the region. When large harvests occur, fish processing companies opt to work their employees longer hours or choose to ship product to other processing plants in the state. Moreover, more floating processors may be called on site for processing. Although some variation exists in fish processing employment, factors other than harvest determine industry employment levels.

What may fluctuate with harvest levels is the earnings of fishers and processing employees. In past years, usually the larger the harvest, the more the fishers earned. But recent years saw many exceptions to this tendency. For example, the ex-vessel value of the salmon harvested in the Bay exceeded \$194 million in 1988, although the harvest volume that year was the smallest during the past decade. A record average salmon price of \$1.86 per pound made this possible. (See Figure 2.) More exceptions of "the more the merrier" rule may transpire in the future as the world's

growing stock of farmed salmon continues to flood markets and depress prices. Although prices in Figure 2 don't appear low in comparison with the early 1980s, after adjusting for inflation they represent the lowest prices paid in more than two decades. The downturn in prices is presently one of the biggest challenges the region faces. But because the Bristol Bay fishing fleet is a high volume producer, Bay fishers may weather these lower prices better than other areas' harvesters.

Huge economic leakages depress value of fisheries harvest

Although Bristol Bay represents one of the single largest fish harvests in the world and is worth hundreds of millions of dollars, most of the benefits of this rich commercial resource escape the region. This is because, since

Table • 6

The Top 15 Employers in the Bristol Bay Region

¹Average of fourth quarter 1995 thru third quarter 1996 employment data.

Source: Alaska Department of Labor, Research and Analysis Section.

Rank	Name of Organization:	Average Annual Number of Employees 1996 ¹
1	Bristol Bay Area Health Corp.	304
2	Icicle Seafoods Inc.	251
3	Southwest Region Schools	197
4	Lake and Peninsula School District	153
5	Bristol Bay Native Association	115
6	Wards Cove Packing Company Inc. (seafood processing)	114
7	Dillingham City School District	95
8	Nelbro Packing Company (seafood processing)	86
9	Trident Seafoods Corporation	76
	Woodbine Alaska Fish Company	76
10	Bristol Bay Borough School District	69
11	Peninsula Airways Inc.	65
12	Omni Enterprises Inc. (grocery stores)	63
13	City of Dillingham	56
14	Bristol Bay Borough	51
15	Chignik Pride Fisheries	38

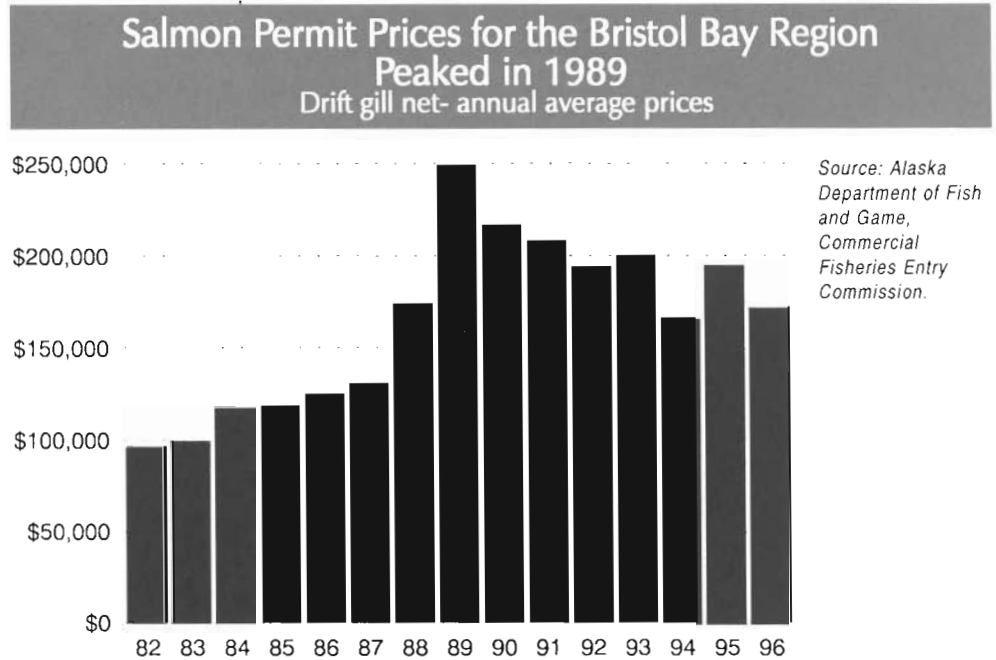
the fishery's inception, most of the fishers and processing workers who work in the region live elsewhere, and only a few of the fish processing plants are locally owned. During 1995, non-residents made up 76.9% of the wage and salary workforce in the Bristol Bay Borough and 72.6% in the Lake and Peninsula Borough. (See Figure 3.) These boroughs hosted the second and third largest nonresident workforces in the state.

Leakages of the harvest value are huge as well. In 1995, local residents owned fewer than a third of the salmon limited entry permits. (See Table 5.) Local residents own less than a quarter of the more valuable drift gill net permits. The erosion of permit ownership by Bristol Bay residents has been of concern for a while. In 1977, for example, 1,325 residents owned limited entry permits versus 900 today. Using an average crew of two to three workers for each permit adds up to over 1,000 potential jobs lost by local residents. One of the culprits is the dramatic rise in the price of permits. (See Figure 4.) In the drift gill net fishery, a boat and gear may require an investment of several hundred thousand dollars, a prohibitive proposition for a person getting started in the Bay. Economic leakages are not only limited to the fishing industry; they plague many industries in the region.

Subsistence is another big economic force in the region

According to the Alaska Department of Fish and Game (ADF&G), subsistence harvests in Bristol Bay are among the highest in the state. Subsistence activity represents an important source of income as well as employment. To an extent, it helps offset the much higher cost of living in the region. Although salmon, moose and caribou are the most important subsistence resources, non-salmon fish, small game and berries are also important. Subsistence foods play a vital role in

Figure • 4



Source: Alaska Department of Fish and Game, Commercial Fisheries Entry Commission.

Table • 7

Visitor Numbers to the Regional National Parks

	Katmai	1/ Brooks Camp	Lake Clark
1980	11,824	5,280	n/a
1981	13,115	5,386	n/a
1982	14,377	6,308	10,440
1983	11,182	6,396	12,332
1984	20,074	7,430	12,505
1985	25,142	6,412	12,701
1986	41,663	7,008	13,611
1987	38,212	8,401	16,418
1988	45,710	10,342	18,412
1989	40,247	9,892	14,879
1990	40,778	10,231	10,196
1991	41,417	10,791	4,133
1992	46,196	13,920	9,103
1993	53,274	13,392	12,153
1994	55,728	14,294	12,143
1995	n/a	13,159	12,698
1996	n/a	14,140	12,727

1/ Brooks Camp is located inside Katmai National Park.

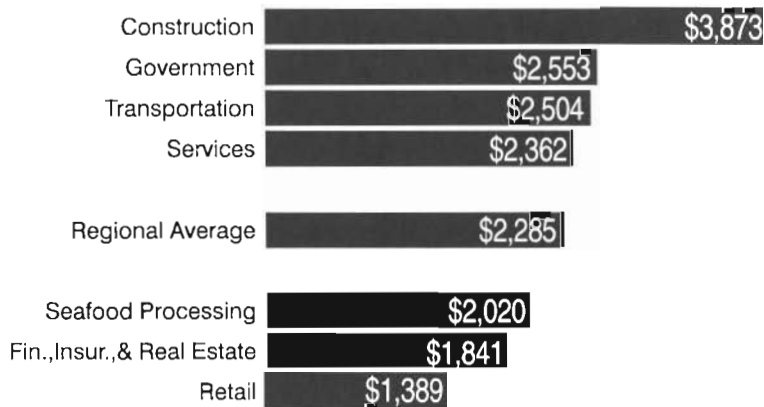
Source: Department of the Interior, National Park Service.

Figure • 5

How Bristol Bay Region's Wage and Salary Picture Stacks Up

Average monthly wages (4th quarter 95 thru 3rd quarter 96)

Source: Alaska
Department of
Labor, Research
and Analysis
Section.



the entire region's economy but are disproportionately more important in the smaller communities. In a majority of the smaller villages, more fish are harvested for subsistence than for commercial use. For example, according to an ADF&G survey, the average household in Nondalton harvested 4,887 pounds of fish for subsistence and only nine pounds for commercial use. Each household also harvested 931 pounds in game meat, 123 pounds in plants and 45 pounds in birds.

The public sector is an important economic player

After fishing, the public sector is the largest employer in the region and contributes the largest wage and salary payroll. The biggest slice of the public sector's employment is local government, which translates into school district employment. Four of the top employers in the region are school districts. (See Table 6.) In many smaller communities, the school is one of only a handful of employers. State government's presence is small in the region, generating only 102 jobs. Federal government's is larger, but its importance has diminished during the past three years. Until 1994, King Salmon was home to the U. S. Air Force. When the base was closed, federal civilian employment and uniformed personnel dropped significantly. Presently, the Fed-

eral Aviation Administration and several land management agencies are the biggest federal government employers. Besides direct public sector employment, pass-through grants and transfer payments play a significant role in the region's economy.

Tourism is growing

Bristol Bay region is home to several national parks, preserves, National Wildlife Refuges, state lands, and hundreds of miles of rivers that are used by recreationists. Lodges situated along the region's rivers, lakes and coast line cater to fishers, hunters and many other visitors. The single largest attraction is Katmai National Park that boasts more than 55,000 visitors per year. By all accounts, visitor numbers are growing. (See Table 7.) A number of businesses are looking to take advantage of this expansion, but the high costs of getting to the area have kept tourism numbers relatively small compared to the visitor numbers of other regions. As infrastructure improves and competition among air service and tour operators grows, these costs are declining. The visitor industry boosts air transportation, retail trade and services. However, like fishing, the economic leakages in this industry are considerable.

The region's retail and services sectors are growing

Because of the under performance of the region's two largest economic sectors, fishing and direct public sector, employment has grown more slowly in Bristol Bay than in the rest of the state. But, in spite of this fact, it is surprising that employment has grown at all. (See Table 4.) Some of this growth is coming from the increase in visitor traffic; some from growth in the region's service and retail sectors. Since 1992, employment in retail trade has grown by over 100 jobs. Like elsewhere in the state, new retailers have entered

the region's market, while others expanded their operations.

Service industry employment also grew during this period. Much of this growth has been in health care. The largest single employer in the region is a service industry nonprofit organization, the Bristol Bay Area Health Corporation based in Dillingham. Another big employer in services is the Bristol Bay Native Association, a nonprofit social service agency. As the public sector devolves, these types of organizations will continue to grow. Because they are so prominent in the region, with wages better than most other service firms', the average monthly wage for a service industry job comes in above the area's overall average wage. (See Figure 5.)

Small to larger communities describe a disparate economic picture

Although the Bristol Bay region represents a largely distinct geographic and integrated economic and social region of the state, a great deal of economic disparity is present in the region. Not surprisingly, most of the income variation exists between the region's larger and smaller communities. For example, Bristol Bay Borough's median household income of \$53,062 was not only the highest in the region, but also the third highest in the state. (See Table 2.) The only reason the Dillingham Census area's median household income comes close to the statewide figure is because of the overwhelming influence of the city of Dillingham. Lake and Peninsula Borough's income, at only 81 percent of the statewide median, is the lowest in the region, reflecting the lack of employment opportunities in small communities. In 1994, according to the Bureau of Economic Analysis, a U.S. Department of Commerce agency, over 23 percent of Lake and Peninsula's income comes from transfer payments compared to 17 percent statewide. Incomes in most of the other smaller communities fall considerably below not only the statewide average but the national average as well. When adjustments are made for the cost of living, this disparity becomes even more dramatic. But the

value of subsistence harvests might ameliorate some of this contrast.

In most of the region's smaller communities, at least a quarter of the families live below the poverty level. In several cases, more than half of a community's population lives below the poverty threshold. According to a 1993 U.S. Census Bureau estimate, 26.8% of all persons living in the Lake and Peninsula Borough were living in poverty. (See Table 2.) Like income, this number does not account for the greater cost of living. On the flip side, subsistence activity is also not included. The lack of employment, income, and business opportunities explains most of these differences. Low educational attainment also plays a role. Moreover, larger and younger households in the smaller communities have the effect of depressing income levels.

A summary - fish help define Bristol Bay

The salmon fishery helps define Bristol Bay's cash and subsistence economy, history and culture. The Bay is not only home to the state's largest salmon fishery, but it represents one of the largest in the world. More than half the employment created in Bristol Bay is a direct result of the salmon fishery. The dependence on salmon and the recent low fish prices have many in the region concerned about their economic future. Although the public and not-for-profit sector, the visitor industry, transfer payments, and services sector have added some diversity to the economy, fishing continues to reign king. In fact, the region is venturing into other non-salmon fisheries that may help further diversify its economy. In the longer run, and possibly more important than fish prices, is the challenge for residents to find ways to capture more of the economic benefits these fisheries are already generating.