

Alaska is the No. 1 fishing state

Alaska is still the No. 1 fishing state in the nation, a position it's held since 1975, based on the state's 2007 catch.¹

The catch was Alaska's third-highest in value² since statehood and its sixth-largest in volume.

The state's annual harvest value first exceeded the \$1 billion mark in 1988 and has done so 14 times in the following 19 years. (See Exhibit 1.) The value fell below the \$1 billion mark in only five years – 1998 and from 2000 to 2003 – and each time it was mostly because of depressed salmon markets.

¹ According to the National Oceanic and Atmospheric Administration's National Marine Fisheries Service

² Not adjusted for inflation

Alaska's fisheries have recovered in recent years, and 2006 and 2007 brought record harvest values – \$1.3 billion and \$1.5 billion, respectively. The value of Alaska's 2007 harvest was 3.6 times the value of Massachusetts' harvest, the nation's No. 2 fishing state.

How many people does it take to catch all that fish?

The average monthly fish harvesting³ job count was 7,260 in 2007, and at the peak of summer, the monthly job count rose to 20,137. (See Exhibits 2 and 3.) Add the thousands of jobs the fisheries created in seafood processing, support service industries and government management, and the economic importance of fisheries to Alaska becomes even more clear.

This article will focus primarily on fish harvesting jobs, a population frequently left out of employment data sets for reasons discussed in the methodology section on Page 12.

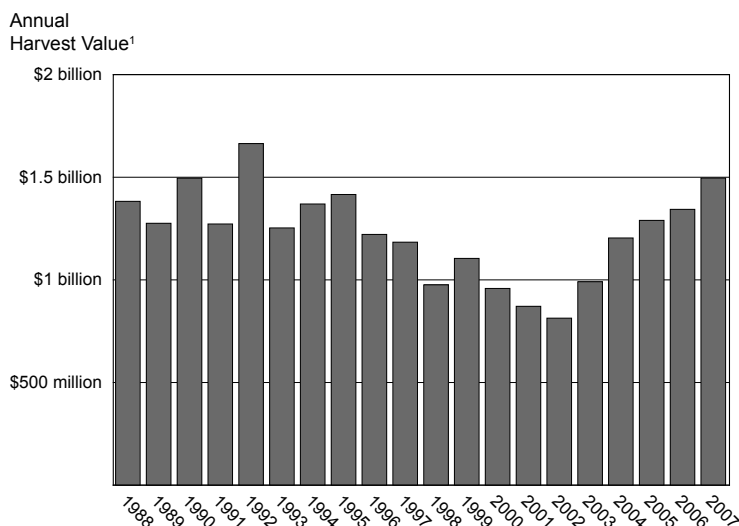
Focusing on harvesting monthly employment

Most of what we know about the state's fisheries comes from the Alaska Commercial Fisheries Entry Commission,⁴ which provides detailed fisheries data on, among other things, gross estimated earnings, pounds caught, permit holders and permit holders who fished.

³ The term "fish harvesting" jobs is used in this article rather than more generic references to "fishing" jobs to clarify that only the jobs created for permit holders and their crew who are directly involved in harvesting the fish are being included and not the many jobs in processing, tendering and other related activities.

⁴ The CFEC is a division within the Alaska Department of Fish and Game.

1 Alaska's Fishery Harvest Values All fisheries, 1988 to 2007



¹ This is the ex-vessel value, the price paid to fishermen at the dock. It's not adjusted for inflation.

Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service

The employment estimates discussed in this article are produced every year by the Alaska Department of Labor and Workforce Development.

The Department of Labor produces the estimates from weekly landing or daily delivery records gathered by the Alaska Department of Fish and Game and the two other regulatory agencies that monitor the state's commercial fishing.

Fish and Game primarily manages the inshore fishery within three miles from shore.⁵ The National Oceanic and Atmospheric Administration's National Marine Fisheries Service supervises the fisheries between three miles offshore and 200 miles offshore (the international border line). The International Pacific Halibut Commission oversees the halibut harvests.

Alaska's fish harvesting employment decreased slightly in 2007, losing 54 jobs, a 0.7 percent loss.⁶ In comparison, the state's wage and salary employment grew 1 percent in 2007.

Fish harvesting jobs have decreased by 17 percent, or 1,446 jobs, since 2000. The biggest drop occurred between 2001 and 2002 when employment fell by 791 jobs, mostly due to depressed salmon markets.⁷

Harvesting employment then made a slow recovery in 2003 to roughly 7,400 jobs. That level held for a few years but it recently has started to trend downward to the 7,260 jobs in 2007. (See Exhibits 2 and 3.)

While overall fish harvesting employment is falling only slightly, Alaska's commercial fishing has undergone substantial changes in specific fisheries.

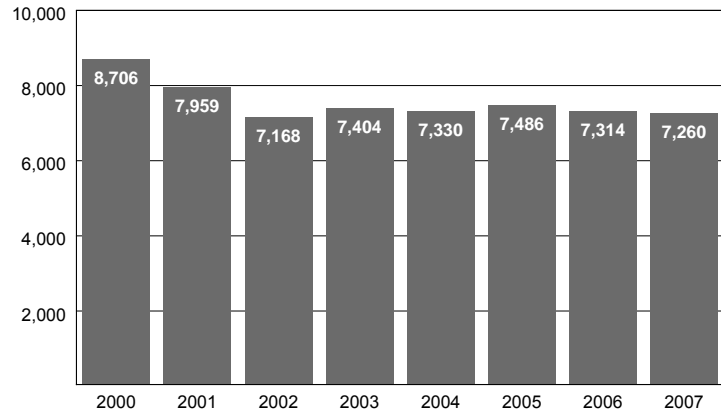
⁵ It also manages the Western Alaska crab fisheries and some groundfish fisheries.

⁶ Job counts in this article are annualized, unless otherwise noted. An annualized job count is simply the average number of monthly jobs over the full calendar year.

⁷ The declines undoubtedly extended well back into the 1990s, judging from other fisheries-related data such as permits fished and catch values, but harvesting employment data aren't available for years before 2000.

Small Declines in Fishing Jobs Alaska, 2000 to 2007 **2**

Monthly Average
Harvesting Employment



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

Salmon is the bread and butter harvest

Alaska's salmon fishery has traditionally provided the most jobs of all the state's fisheries; salmon provided nearly 52 percent of the fishing industry's employment in 2007. (See Exhibits 3 and 4.)

Salmon employment – at 3,759 in 2007 – has made a strong recovery from its low point in 2002, when it had dwindled to 3,073 jobs. It increased to 3,817 in 2005, remained relatively stable, then decreased slightly to the 2007 amount.

Salmon has also made a strong comeback since 2002 in volume and value. The 2007 overall salmon harvest of nearly 950 million pounds was Alaska's third-largest salmon harvest in 27 years. The 2007 harvest was worth nearly \$417 million – the highest in eight years – and it was worth more than six times 2002's harvest.⁸

The year 2007 was the best year in terms of gross earnings in eight years for six of the state's 11 salmon regions, and the five remaining regions still had satisfactory seasons. Salmon's 2006 harvest value was the second best in value but ranked sixth in terms of volume. The harvest

⁸ For more information on the value and volume of individual fisheries in Alaska, go to the CFEC Web page at cfec.state.ak.us/fishery_statistics/earnings.htm.

3 Fish Harvesting Employment Alaska, 2000 to 2007

All Fisheries													Monthly
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
2000	3,230	4,122	5,180	6,488	8,417	21,298	23,362	14,958	8,285	5,797	2,451	889	8,706
2001	2,972	4,286	4,505	4,681	7,053	18,884	21,571	13,921	8,095	6,194	2,617	726	7,959
2002	3,590	4,047	4,334	4,913	6,715	16,292	18,224	11,975	6,983	5,794	2,632	524	7,168
2003	3,284	3,609	4,378	5,797	6,233	17,610	19,670	11,922	7,191	5,969	2,660	526	7,404
2004	3,594	3,492	4,110	5,050	6,476	17,139	19,634	12,308	7,371	6,023	2,259	509	7,330
2005	3,561	3,150	4,227	5,115	6,283	18,169	20,566	12,889	7,192	4,958	2,768	953	7,486
2006	2,700	3,038	4,573	4,293	5,709	17,748	20,066	13,700	7,719	5,003	2,507	720	7,314
2007 ¹	2,584	2,966	3,930	4,348	5,949	17,528	20,137	13,567	7,500	4,738	3,080	791	7,260
Total Salmon													Monthly
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
2000	70	128	203	329	1,047	16,119	19,268	10,156	3,584	335	177	127	4,295
2001	77	127	197	309	1,088	13,482	17,101	8,959	3,139	415	164	77	3,761
2002	96	138	219	282	1,152	11,301	13,536	7,076	2,484	427	96	65	3,073
2003	131	254	271	321	1,241	13,042	15,214	6,802	2,907	537	202	166	3,424
2004	123	268	350	405	1,189	12,734	15,508	7,426	3,509	427	187	184	3,526
2005	232	292	390	359	1,584	13,708	16,482	8,520	3,259	536	243	205	3,817
2006	218	271	357	435	1,568	13,037	16,084	9,013	3,664	518	154	134	3,788
2007 ¹	161	235	261	491	1,459	12,959	16,073	9,143	3,586	448	193	97	3,759
Total Halibut													Monthly
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
2000	0	0	1,116	1,765	2,682	2,482	2,079	2,451	2,263	1,371	744	0	1,413
2001	0	0	1,155	1,647	2,380	2,557	2,058	2,483	2,122	1,426	766	0	1,383
2002	0	3	906	1,766	2,387	2,760	2,305	2,396	1,939	1,155	655	0	1,356
2003	0	0	1,159	1,851	2,046	2,530	2,049	2,429	1,825	1,321	717	0	1,327
2004	0	3	1,077	1,477	2,417	2,443	1,909	2,380	1,683	1,338	624	0	1,279
2005	0	54	1,053	1,621	2,093	2,356	2,024	2,227	1,736	1,377	630	0	1,264
2006	0	0	1,179	1,456	2,080	2,438	1,908	2,416	1,181	1,540	713	3	1,293
2007 ¹	0	0	819	1,312	2,188	2,448	2,001	2,233	1,713	1,508	732	0	1,246
Total Groundfish/Other													Monthly
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
2000	2,965	3,339	3,195	1,992	1,051	797	933	1,331	1,271	1,048	501	473	1,575
2001	2,050	2,441	2,338	1,499	898	896	1,114	1,335	1,674	1,171	526	387	1,361
2002	1,836	2,264	2,318	1,179	739	647	1,115	1,282	1,411	1,020	654	221	1,224
2003	1,972	2,270	2,033	1,338	955	760	1,143	1,232	1,397	905	436	68	1,209
2004	2,134	2,413	1,775	1,342	719	735	997	1,184	1,299	1,142	482	75	1,191
2005	1,965	2,187	1,663	1,268	518	729	1,016	1,009	1,412	1,083	387	360	1,132
2006	1,884	2,006	1,824	1,122	645	840	1,059	1,131	1,403	911	354	365	1,129
2007 ¹	1,977	2,064	1,843	1,188	803	912	1,055	1,058	1,395	813	677	401	1,182

mix and improved prices for the different species were factors in the disparity.

Alaska's salmon fishery is diversified and targets five species: kings, sockeye, pinks, chum and silvers. In some areas one species dominates, such as sockeye in the Copper River area, Bristol Bay, the west and east shores of the Alaska Peninsula, Chignik and in Cook Inlet.

Kodiak, Southeast Alaska and Prince William Sound harvests tend to be of mixed stock but pinks are usually the largest portion of the catch. In the Northern region on the Yukon, kings produce the highest value. On the Kuskokwim and Yukon rivers, chum salmon is

the most abundant species. The harvest mix often changes the catch values.

Prices for the different species fluctuate as global supply and demand shift emphasis. Kings commanded the highest price per pound in 2007 and pinks commanded the lowest, a pattern for years. Area-wide prices for kings, chum, silvers and pinks have all increased recently, and only sockeye prices have remained about the same. (See Exhibit 5.)

Average harvest prices for all species except sockeye have kept up with inflation in the past seven years.

Changes in the Bristol Bay fishery

One of the most lucrative salmon areas is the Bristol Bay fishery, a magnet for Alaska

resident and nonresident harvesters. It's a high value, fast and fierce fishery. The sockeye stock abundance has helped to push up the total value of the fishery.

The Bristol Bay salmon fishery employed 1,110 in 2007 – 30 percent of the statewide total for all salmon. The fishery had 6,891 jobs at the peak of the season in July 2007, more than six times the monthly average for 2007. (See Exhibit 6.)

Employment has lingered around the 1,100 level since 2003, after recuperating from the disastrous 2002 season with 888. The employment was higher in 2000 and 2001 (1,377 and 1,179,

respectively) and likely before that as well.⁹

Fish Harvesting Employment Alaska, 2000 to 2007 (Continued) **3**

Bristol Bay draws more fishermen than any other fishery in the state. Fishermen holding 2,303 permits fished in 2007 (1,468 gillnet permits and 835 set net permits).

Bristol Bay's 2007 employment was 19 percent lower than what it was in 2000. The employment may further decline in the future due to a change in gear regulations.

Since 2004 Bristol Bay fishermen have been allowed to attach 50 fathoms of net to their existing gear of 150 fathoms when one boat fishes more than one area drift-net permit. Two permit holders can combine their effort and use one boat and split their harvest earnings. It's not yet clear how that's affecting employment.

Even so, 1,283 Bristol Bay boats in 2007 still delivered salmon using only one permit. The harvest records show that 119 boats fished two permits and five boats used three permits.

There may be other reasons to stack permits on one catcher boat,¹⁰ but some multi-permit fishing boats most likely took advantage of the new regulation. As vessel operating costs rise, it's likely some permit holders will continue to consolidate

their efforts. Consolidation will make the fishery more efficient because permit holders can share boat expenses and save on crew share.

That means that in 2007 seasonal employment in Bristol Bay may have been lower than estimated. Future attention to the new fishing method will establish how many fishermen adopt it. The regulation took effect this year for Cook Inlet gillnet permit holders and it could spread to other regions.

The 2007 Bristol Bay catch was worth \$109 million, 26 percent of Alaska's total salmon harvest

Total Crab	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Monthly Average
	2000	70	524	198	1,506	135	478	448	434	174	1,707	304	72
2001	767	1,636	249	150	132	508	603	575	156	1,748	506	129	596
2002	1,526	1,535	273	165	75	578	593	658	204	2,052	564	77	692
2003	1,050	950	229	96	42	526	602	615	184	1,978	566	91	577
2004	1,239	706	222	42	39	513	549	568	110	1,836	304	82	517
2005	1,257	496	378	51	24	484	526	420	91	694	846	196	455
2006	523	660	537	210	60	432	429	401	88	788	755	83	413
2007 ¹	363	589	450	252	42	451	473	441	93	851	864	142	418

Total Sablefish	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Monthly Average
	2000	0	0	146	753	1,020	749	422	487	944	604	309	0
2001	0	0	260	741	919	805	529	472	951	650	271	0	466
2002	0	3	309	729	912	810	480	481	899	422	194	0	437
2003	0	0	384	793	806	655	505	765	830	514	309	0	463
2004	0	4	391	717	912	614	549	674	730	582	229	0	450
2005	0	21	397	712	878	650	426	652	664	575	256	0	436
2006	0	0	358	621	790	751	513	711	767	580	208	0	441
2007 ¹	0	0	263	574	839	697	480	649	698	555	245	0	417

Total Herring	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Monthly Average
	2000	0	0	271	92	2,339	566	107	0	0	0	0	33
2001	17	0	274	288	1,491	505	85	0	0	5	5	11	223
2002	6	11	270	761	1,324	88	100	0	0	8	0	17	215
2003	6	16	275	1,353	1,034	0	76	0	5	0	5	11	232
2004	0	0	253	1,023	1,089	3	46	0	5	5	0	6	202
2005	20	11	286	1,046	1,088	164	18	0	0	5	0	5	220
2006	6	11	275	430	469	190	15	0	5	0	0	10	117
2007 ¹	6	11	275	516	578	25	20	0	0	5	0	6	120

Total Miscellaneous Shellfish	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Monthly Average
	2000	126	131	52	52	143	108	106	100	49	732	417	185
2001	62	82	33	48	146	132	81	97	54	780	380	122	168
2002	127	93	40	32	127	108	95	83	47	711	469	144	173
2003	126	120	27	46	110	97	82	81	44	712	427	191	172
2004	98	99	41	45	112	99	77	76	36	694	434	163	165
2005	95	90	57	59	98	79	74	62	30	663	407	188	159
2006	69	90	44	20	101	60	58	48	12	666	323	126	135
2007 ¹	78	68	19	15	40	36	36	43	15	559	370	146	119

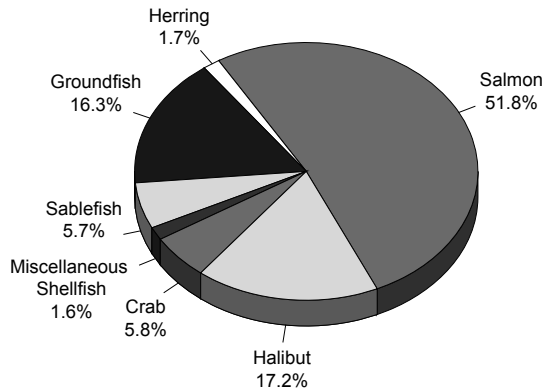
¹ Preliminary

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

⁹ As mentioned earlier, the employment data series only goes back to 2000.

¹⁰ For example, one reason would be an emergency transfer of a permit due to the illness of a permit holder.

4 Salmon Has the Most Jobs Harvesting employment, 2007



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

5 Statewide Salmon Prices 2000 to 2007

Statewide Salmon Prices¹

	King	Sockeye	Coho	Chum	Pink
2000	\$1.95	\$0.79	\$0.56	\$0.27	\$0.15
2001	\$1.68	\$0.57	\$0.49	\$0.34	\$0.13
2002	\$1.30	\$0.60	\$0.36	\$0.18	\$0.10
2003	\$1.43	\$0.63	\$0.48	\$0.18	\$0.09
2004	\$1.85	\$0.60	\$0.68	\$0.21	\$0.10
2005	\$2.23	\$0.74	\$0.75	\$0.26	\$0.12
2006	\$3.03	\$0.76	\$1.04	\$0.32	\$0.16
2007	\$3.07	\$0.80	\$0.96	\$0.34	\$0.19
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2000-2007					
Species Price Change	57%	1%	71%	26%	27%
CPI-U Anchorage ²	20%	20%	20%	20%	20%

¹ Not adjusted for inflation

² CPI-U is the Consumer Price Index for all Urban Consumers, which is Anchorage's (and Alaska's) most commonly used measure for inflation. It's produced by the U.S. Department of Labor's Bureau of Labor Statistics.

Source: Alaska Department of Fish and Game, Division of Commercial Fisheries

value. Permit holders who are residents of the Bristol Bay, and Lake and Peninsula boroughs and the Dillingham Census Area received 19 percent of the gross value. Other Alaska residents claimed 25 percent and out-of-state permit holders received 56 percent.

IFQs continue to transform halibut and sablefish fleets

Halibut and sablefish employment was down about 4 percent in 2007 – 66 fishing jobs – over the 2006 season. The jobs in the two fisheries have slowly eroded since 2000: they've lost 200 jobs total, an 11 percent decline.

NMFS oversees the sablefish fishery in federal waters, where fishing rights are granted through an individual fishing quota share, or IFQ, system. Individual quota shares guarantee the holder the right to harvest a certain percentage of the total allowable catch. Quota shares can be bought and sold and are almost always fished since they represent a tangible asset and can be "stacked," or fished in multiples from the same vessel for greater efficiency.

In state waters, Fish and Game monitors the sablefish fishery, determining gross harvest levels and openings. Depending on the area, permit holders receive equal shares, compete for the catch (a limited-entry fishery) or it's an open-access fishery.

Halibut is an international fishery. The International Pacific Halibut Commission manages and controls the entire halibut fishery in Alaska, Canada and other Pacific U.S. states.

Sometimes sablefish and halibut are fished from the same boat, with the same gear type, but often the two are fished separately. In 2007 there were 1,289 landings with a combined catch, 5,190 landings with halibut only and 527 landings with sablefish only.

Before 1995, halibut was a derby fishery, where short season openings – at times less than 24 hours long – drew fierce competition.

The individual fishing quota system was implemented in 1995, resulting in volume-controlled long-season fisheries. For example, the 2007 harvest for halibut ran from March 10 to November 15.

Since 1995, individual fishing quota privileges for the halibut and sablefish fisheries have been extended from boat owners¹¹ to crew members, and allocations for the latter are still being granted. By 2007, 977 crew members (deckhands) had received halibut quota shares and 229 had received sablefish quota shares.

¹¹ Those who had operated leased boats in the past are included with boat owners.

The IFQ fleet caught more than 49 million pounds of halibut in 2007, down 6 percent from its 2006 harvest, and more than 30 million pounds of sablefish, down 3 percent from 2006.

Sablefish fishermen in state waters in 2007 caught 2.7 million pounds, almost 8 percent of the total sablefish harvest in state and federal waters.

Halibut and sablefish have some of the highest per-pound prices of all fish species.

And the price of halibut has recently gone up. It hovered around \$2 a pound between 1995 and 2002, hit the \$3 mark in 2003 and stayed there through 2005, then catapulted to \$3.75 in 2006. It's still holding strong.

The price of sablefish has been high since 1995, approaching \$3 a pound in most years.

The quota share system has forged fleet consolidation, partly due to the "stacking" mentioned earlier, with quota share owners sharing effort and expenses. In 1992, 3,452 vessels fished for halibut and 1,166 targeted sablefish. By 2007, the fleet had dwindled to 1,211 boats fishing for halibut and 373 for sablefish.

There could be further consolidation as individual fishing quotas are traded. The new quota shares that have been issued (mostly to crew members) haven't increased participation in the fisheries or diluted ownership concentration. In 1995, at the start of the program, 4,829 fishermen were issued halibut quota shares and 1,054 fishermen were issued sablefish quota shares. At the end of 2007, 3,002 halibut and 857 sablefish quota share owners remained, condensing ownership in the combined fisheries by 34 percent.

Groundfish harvests are massive

Salmon generates more jobs than any other fishery, but in terms of volume and value, the state's

Salmon Harvesting Employment **6**

Almost exclusively a three-month fishery, 2000 to 2007

Salmon Harvests in the Bristol Bay Region

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Monthly Average
2000	0	0	0	0	0	7,668	8,250	603	3	0	0	0	1,377
2001	0	0	0	0	0	6,771	7,098	276	0	0	0	0	1,179
2002	0	0	0	0	0	4,830	5,514	309	0	0	0	0	888
2003	0	0	0	0	0	6,045	6,465	249	0	0	0	0	1,063
2004	0	0	0	0	0	6,093	6,513	375	84	0	0	0	1,089
2005	0	0	0	0	0	6,135	6,750	279	15	0	0	0	1,098
2006	0	0	0	0	3	6,201	6,936	540	3	0	0	0	1,140
2007 ¹	0	0	0	0	0	5,982	6,891	444	0	0	0	0	1,110

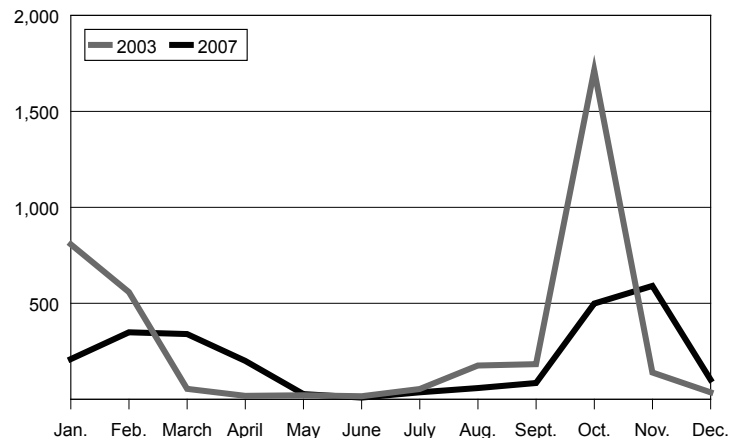
¹Estimated

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

How Crab Harvesting Has Changed **7**

Bering Sea-Aleutian Islands region

Number of Crab Harvesters¹



¹ Includes crew

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

largest fishery is groundfish.¹² A few large boats catch an enormous amount of fish, predominantly pollock, without a lot of manpower.

The massive groundfish harvests take place in the vast fishing district referred to as the Bering Sea-Aleutian Islands region, or BSAI, and the Gulf of Alaska. The majority of the harvest is caught in federal waters.¹³

The BSAI groundfish harvest in federal waters in 2007 was nearly 1.7 million metric tons, and the Gulf of Alaska's was more than 151,000

¹² All groundfish references in this section exclude sablefish.

¹³ The state and federal agencies that manage the fishery work cooperatively and in some cases have joint management agreements.

8 Alaska's Fishing Industry

Work force, 2007

Employment Indicators

Fishermen who fished permits ¹	9,700
Crew license holders	19,300
Tender/packer/freezer/canner operators on vessels ²	1,100
Wage and salary crew on tender/packers ³	300
Seafood processing workers ³	23,600
Total fishing industry work force⁴	54,000

¹ Preliminary

² The 1,100 doesn't include self-employed crew on the vessels.

³ This is a count of individuals who worked at any point in the year.

⁴ This is a total count of individuals within each category. Because individuals may be counted in more than one category, this total may slightly overstate the actual number of individuals employed in the fishing industry.

Sources: Alaska Department of Fish and Game, Division of Commercial Fisheries and Commercial Fisheries Entry Commission; Alaska Department of Labor and Workforce Development, Research and Analysis Section

metric tons.¹⁴ That translates to nearly 4.1 billion pounds for both. In state waters, the catch was an additional 40.2 million pounds.

The 1,182 jobs generated by the groundfish fishery in 2007 were almost a third of those from salmon (3,759 jobs), and were also less than from halibut (1,246 jobs). (See Exhibit 3.)

Employment in 2007 was up 4.7 percent from 2006. The number of jobs has fluctuated some since 2002, but not dramatically.

A look at the longer 2000 to 2007 period, though, shows a bigger change. Employment decreased by nearly 400 jobs, a 25 percent loss.

Beginning in 2000, fishing has been restricted near sea lion haulouts in the Gulf of Alaska and Bering Sea, and in the Aleutian Islands area to protect sea lions and their habitat. The restrictions most likely played a role in the employment drop because those areas are particularly rich in pollock and cod.

Rationalization changes the crab fishery

Alaska's crab fisheries generated 418 jobs in 2007 – a 40 percent drop from 2002 when the fisheries provided 692 jobs. (See Exhibit 3.) One reason for the decline is the crab rationalization program that was implemented in 2005

¹⁴ NMFS publishes catch records for 27 different species or species groups.

in the BSAI region, home of the state's largest crab fishery in terms of volume.

Between 2003 and 2007, BSAI crab employment fell by 34 percent and peak month employment fell from 1,694 in 2003 to 584 in 2007, a 65 percent drop.

As intended, the 2005 crab rationalization program reduced fleet size. It distributed individual share quotas to BSAI fishermen, based on a personal-catch limit that's adjusted to the total annual harvest quota.

In 2003, for example, the BSAI crab fishery had 252 boats registered for red king crab, 22 for golden king crab and 192 for snow crab.¹⁵ By 2007 the BSAI fleet had downsized: just 74 boats registered for red king, five for the golden king and 76 for snow crab.

The rationalization program also gave BSAI fishermen partial ownership of the crab harvests, and gave quota holders a traded asset. The quota holders can opt to fish their share, lease it to other boats in exchange for a percentage of earnings, or sell shares to other quota share holders.

Rationalization has also changed the fishing rhythm. (See Exhibit 7.) Crab boats no longer have to compete in a concentrated time frame for the highest catch because their seasons became longer and the size of their catch became predetermined. BSAI crabbers now can place their pots and pick them up in good weather, mitigating some of the perils that occurred in the past in pursuit of the "deadliest catch."

In the future, crab employment may retrench even more as fishermen consolidate their efforts due to the high cost of operating their boats. Whether gross earnings will increase or go to fewer fishermen isn't quite clear. Future harvest levels and world market prices for all crab species will continue to play a major role. Active BSAI fishermen, whether they buy additional shares or lease them, will also incur costs to compensate the passive crab quota share holders.

¹⁵ As usual, several boats took part in the fisheries for all three crab species.

The crab fishery jobs in the Southeast region – the area that’s usually second in the state in terms of volume – has fluctuated little since 2003.

In other areas the crab fisheries are small. Kodiak’s tanner crab fishery usually takes place in January and mostly residents fish the quota. In Norton Sound, the golden king crab fishery, which is harvested in the summer, is the area’s largest in terms of volume, but it’s still small compared to the BSAI and Southeast crab fisheries.

Market forces reduce activity in the herring fishery

Alaska’s herring fishery, one of the oldest commercial fisheries in the state, dates back to the early 20th century. Nowadays herring is mostly fished for its sac roe, which is exported to Japan, and the fish is usually ground up into meal. Commercial herring harvests also supply bait for other commercial and sports fisheries.

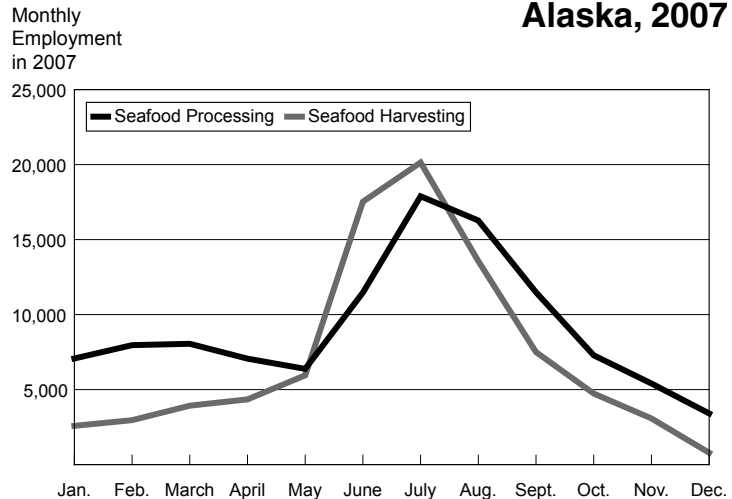
Yet, while the bait fishery has been relatively stable, the harvesting value of roe has declined due to reduced demand for *kazunoko* (herring roe) on Japanese markets.

A comparison of 2007 harvest records with earlier records shows the steep decline. In 1996, for example, Alaska’s herring fishery produced nearly \$51.6 million in gross earnings for fishermen; in 2007 gross earnings had dropped to \$9.3 million, an 82 percent decline.

Volume over the same time period also decreased, but only by 38 percent. It wasn’t because there was less herring to catch; there was just diminished market interest. Seafood buyers restricted harvest deliveries in some areas, and in the northern herring districts, they wouldn’t buy herring at all.

Those market problems have reduced participation in the fishery. The number of herring jobs has dropped 58 percent between 2000 and 2007. Looking at monthly average employment, the fishery lost 164 jobs when comparing 2000

Activity Peaks in Summer Alaska, 2007



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

to 2007. Those losses come partly from a market-driven lack of interest.

Miscellaneous shellfish are diverse

Besides crab, a small and diverse shellfish fishery takes place in waters surrounding Alaska. Shrimp, scallops, clams, sea cucumbers and urchins are the principal species.

Miscellaneous shellfish employment was 119 in 2007, which was down 12 percent from 2006 and continued a gradual decline that started in 2003. Between 2000 and 2007, employment dropped by 64 jobs, a 35 percent decline.

The miscellaneous shellfish harvest value in 2007 was just over \$12 million. Shrimp, scallops and sea cucumber, an exclusive export product, were worth the most.

Different methods of valuing Alaska fisheries

As noted at the beginning of this article, the harvest value of Alaska’s fisheries in 2007 was an impressive \$1.5 billion. However, there are other ways of assessing the fisheries’ benefit to Alaska.

Gross state product numbers by state, for example, only include the component of the fisheries’

Methodology Notes

In other industries, the Alaska Department of Labor and Workforce Development can count jobs because most employers are required to report the number of employees on their payrolls each month as part of their mandatory unemployment insurance coverage. But fish harvesting jobs are generally exempted from state unemployment insurance laws, and even if they weren't, they don't generate the payroll records used to calculate monthly employment in other industries.¹

Landings and crew factors

As a substitute for detailed payroll records, state and federal fish management agencies provide the Department of Labor with information on the specific "landings" made under each commercial fishing permit over the course of a year. A landing is the initial sale of harvested fish to a buyer. To create employment estimates from the landings, the Department of Labor uses "crew factors" developed from surveys and industry research in an attempt to quantify the labor needed to fish specific permits.

¹ Another reason why no employment data have been available for the fisheries is that the U.S. Bureau of Labor Statistics, which governs how employment is counted in the federal-state cooperative program called Current Employment Statistics, defines fishing as an agricultural activity and agricultural employment has traditionally been excluded from employment statistics under this program.

For example, the crew factor for a K91T permit – which is a permit to fish for king crab in Bristol Bay with pot gear on a vessel more than 60 feet long – is six, so if a landing is recorded under a K91T permit, six jobs are attributed to that permit. Each permit number is unique (the K91T permit used in this example is the type of permit rather than the permit number itself), which allows the Department of Labor to assign only one set of jobs to a specific permit in any given calendar month even if numerous landings are made during the month.²

The jobs are assigned by place of work rather than by the residence of the job holders. Most permits have a geographic designation as to where specific species can be harvested. In the above example using a K91T permit, the "T" stands for the Bristol Bay crab fishery that takes place between the western edge of Bristol Bay and in the Bering Sea. All landings made under that type of permit create employment in the ports of the Aleutian and Pribilof islands. Employment generated under permits that allow fishing anywhere in the state is assigned by a special harvest area code.

² The same approach to counting the number of monthly jobs is used for other industries in that a person who works 60 hours a week for a single employer is counted the same as a person who works 20 hours a week. Each is said to hold one job in that month.

The permit is the employer

The permit itself is considered the employer, which means that a permit holder who makes landings under two different permits in the same month will generate two sets of jobs. Counting the permit as the employer rather than the permit holder is believed to be a slightly better approximation of how jobs are counted in wage and salary employment numbers.

Prep time not counted

The harvesting employment estimates are conservative in that they don't reflect any time spent by permit holders or their crew preparing to fish or winding up operations at the end of the season. Until a landing is made under a permit, no employment is tallied. So if the permit holder works for two weeks in May getting the boat ready to fish and then begins making landings in June, the efforts in May are not counted as employment despite their obvious importance to the enterprise. The Department of Labor is attempting to quantify preparation time in the various fisheries and hopes to include that information in future estimates.

value that remains in Alaska.¹⁶ A significant portion of the value leaves the state after the season when nonresident fishermen, crew and processing workers take their earnings elsewhere.

In 2007, the fishing industry's contribution to the state's gross domestic product was \$770 million out of Alaska's total gross domestic product of \$43.1 billion. The industry's contribution would be higher, but a big portion of the manufacturing profits shift south because many of the

¹⁶ States' gross domestic products are based on labor income, business taxes and capital income. The numbers are compiled by the U.S. Department of Commerce's Bureau of Economic Analysis.

seafood processing companies are headquartered out of state.

Fish and Game's Commercial Operator's Annual Report looks at value another way, tracking the total wholesale value of the fisheries. In 2007, that number was \$3.6 billion, up from \$3.4 billion in 2006.

Yet another way to value the fisheries is by the amount of seafood products exported internationally. In both 2006 and 2007, Alaska exported \$2 billion worth of seafood products. That amount was half of Alaska's total exports.

A look at the entire fishing industry work force

When employment from seafood processing and transportation workers are included with harvesting employment, at least 54,000¹⁷ people were involved in commercial fishing some time in 2007. That's a large labor force that under-

¹⁷ This number shouldn't be compared with the 317,600 average monthly wage and salary job count in 2007 that has been published in previous issues of *Trends* and on the Department of Labor's Research and Analysis Web site. Significantly more than 317,600 people worked in a wage or salary job in Alaska at some point in the year. The mistake to avoid is equating a count of people who participated at any time in a calendar year with an average monthly job count.

scores the fishing industry's labor-intensive nature. (See Exhibits 8 and 9.)

The work force is made up of wage and salary workers and the self-employed. The harvesting sector is made up of fishermen – captains, permit holders and crew – who are self-employed. Seafood transportation workers, who transport fish from the fishing grounds to the processing sites, can be either wage and salary or self-employed workers, depending on their contract status. On-shore seafood processing workers and those who work on processing vessels within three miles from shore are wage and salary workers.

A Safety Minute

Governor's Safety and Health Conference

Workplace safety and health performance is emerging as a key area for businesses to reduce costs and maintain competitive advantages. The 28th Annual Alaska Governor's Safety and Health Conference is scheduled for March 17-19, 2009, at the recently renovated Sheraton Anchorage. This year's agenda will feature a host of exciting training subjects to help businesses reach the next level in workplace safety and health performance in areas such as:

- Employer resources
- The transportation and warehousing industry
- The hospitality industry
- The oil and gas industry
- Youth safety and health
- An OSHA¹ 10-hour construction standards course
- An OSHA 10-hour general industry standards course

The conference attracts numerous vendors to display the latest safety and health products and services to help businesses with everything ranging from regulatory compliance programs and personal protective equipment to employee wellness programs. The Governor's Office will also recognize companies, organizations and individuals for their achievements in workplace safety and health.

To register, or for more information about the conference, award applications and sponsorship opportunities, visit the conference's Web site at www.regonline.com/gshc2009, call (907) 276-6060 or email gshc09@logisticsllc.com.

¹ OSHA is an acronym for the U.S. Department of Labor's Occupational Safety & Health Administration.