Employment in Alaska’s Fisheries

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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.
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. 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. 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.

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.

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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.
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.
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).
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, 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.

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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.
Salmon Has the Most Jobs
Harvesting employment, 2007

Statewide Salmon Prices
2000 to 2007

IFQs continue to transform halibut and sablefish fleets

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.

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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 owners 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 largest fishery is groundfish. 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.

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.

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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.
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 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.

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

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 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’
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 the 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.

Methodology Notes

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 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.

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.
A look at the entire fishing industry work force

When employment from seafood processing and transportation workers are included with harvesting employment, at least 54,000\(^\text{17}\) 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.

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 OSHA 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.