Alaska’s fishing industry is a major economic engine, leading the nation in fish harvesting value and poundage. Harvesting and processing also help drive our state economy. In 2009, the industry directly employed at least 53,500 workers at some point during the year. (See Exhibit 1.)

This article is an overview of total workers and average monthly employment¹ in the Alaska fishing industry. It also provides a focused look at species and regions, and reviews how we create annual size estimates using fish harvest records, wage records, and other data sources.

¹ This article refers to both jobs and workers when discussing employment numbers. Unless otherwise specified, “jobs” refers to annual average monthly jobs. “Workers” refers to the number of distinct workers in that sector. These two statistics can trend in different directions because multiple individuals can work the same job, and because jobs are averaged over the entire year.

Estimating harvester employment

Although seafood processing workers and jobs are included in Alaska wage and salary employment numbers, fish harvesting workers² fall outside the normal labor force reporting process — just like self-employed workers and the military, two other major sources of state employment. Because fish harvesters are exempt from reporting employment and workers’ earnings, not all harvesters and crew are counted in the Alaska Department of Labor and Workforce Development’s regular employment data series.

Given the economic importance of the industry and the lack of precise employment estimates, the Department of Labor created a special data series to fill this gap. (For detailed information on how we developed this data series, refer to the crew factor discussion in the methodology sidebar near the end of this article.) We update these estimates of the number of workers and average monthly employment annually in cooperation with the Alaska Department of Fish and Game.³

² The term “fish harvesting” is used instead of the more generic “fishing” reference to clarify that only jobs created for permit holders and crew who are directly involved in harvesting the fish are included. It does not include the many jobs in processing, tendering, and other related activities. This article addresses processing jobs separately.
³ Fish and Game primarily manages the in-shore fishery within three miles from shore, the Western Alaska crab fisheries, and some groundfish fisheries. The National Oceanic and Atmospheric Administration’s National Marine Fisheries Service supervises the fisheries between three miles and 200 miles off shore (the international border line). The International Pacific Halibut Commission oversees halibut harvests.
Total industry numbers in 2009

Throughout 2009, there were almost 30,000 people harvesting fish in Alaska waters. Roughly 20,000 were licensed crew while the remaining 10,000 held permits. Seafood processing is the other large industry sector, with around 24,000 people employed at some point during 2009.

While harvesting and processing employed a total of 53,522 people last year, most in the fishing industry are not working year-round. Because of the industry’s dramatic seasonal pattern, its average monthly employment is much smaller. The overall mean is approximately 16,234 people: about 7,100 in harvesting and 9,100 in seafood processing in 2009. (See Exhibit 2.) However, the average monthly fish harvesting job count\(^4\) hit 20,075 at its summer peak, and seafood processing reached a high of 19,387 summer workers from its monthly average of 9,147.

Alaska’s total fish harvesting workforce grew from 2008 to 2009, adding 1,412 workers for a 2.7 percent gain. However, the average monthly job count went down from 7,370 to 7,087.

Dependence varies by region

The fishing industry benefits all areas of the state differently. The regions that rely on it most are the Aleutians and Bristol Bay. The other coastal areas\(^5\) also have strong harvesting and processing employment, but the interior and larger city centers such as Anchorage and Fairbanks have less direct industry involvement.

\(^4\)For data on average monthly jobs, go to: http://www.labor.state.ak.us/research/seafood/statewide/AKAvgMonthlySpec.pdf.

\(^5\)“Coastal” is all of the state boroughs excluding the Municipality of Anchorage; the Matanuska-Susitna, Fairbanks North Star, and Denali boroughs; and the Southeast Fairbanks Census Area.

The Aleutians depend most on the fishing industry, with 78.6 percent of the workforce involved in processing or harvesting at peak in the first quarter of the year. (See Exhibits 3 and 4.) The fourth
quarter shows the lowest percentage of fishing industry workers — but even during that quarter, over 64 percent of the labor force worked in fishing. When each worker is counted only once over the entire year, 63 percent of all workers in the Aleutians are part of the fishing industry.

The region with the second highest percentage of the workforce in fishing is the Bristol Bay region, with 57 percent of its workers involved in harvesting and processing at some time in 2009. However, the industry’s relative importance in Bristol Bay is much more seasonal than in the Aleutians, because Bristol Bay’s high-value fisheries only open for a few weeks at most. In the second and third quarters, about 65 percent of its workers were employed in fishing, compared to only about 3 percent in the first and fourth quarters of that year.

Kodiak’s fisheries are also highly seasonal. During the summer, fishing employment makes up around 50 percent of the total, dropping to the mid-30th percentile during the winter months. On an annual basis, 42 percent of the workforce in Kodiak is involved in fishing.

Southeast, Southcentral, and Western Alaska also have strong seasonal patterns in their fishing employment. Each has a peak quarter with around 25 percent of the labor force working in the fishing industry.

The Anchorage and Northern regions (including Fairbanks) are large population centers with little direct economic dependence on fishing. They do, however, provide some seasonal fish harvesting and processing workers to the coastal areas. They also give direct and indirect support to processing and transportation of fish, and therefore benefit significantly from the industry.

Regional results mixed

In terms of total estimated workers, numbers dropped everywhere between 2008 and 2009 except Southeast, which gained 165 estimated workers, or 1.7 percent. (See Exhibit 4.) State-
wide, there was an overall gain of 799 active permit holders and purchased crew licenses last year — an addition of 958 total crew members offset by a loss of 159 permitted fishermen.

**Harvests by fishery**

**Salmon**
The Alaska salmon fishery is composed of five species: king, sockeye, pink, chum, and coho. Sockeye comprise the majority of the harvest in Bristol Bay, Alaska Peninsula, Chignik, Cook Inlet, and the Copper River area; pinks dominate in Southeast Alaska, Prince William Sound, and Kodiak; chum are the main harvest for the Kuskokwim and Yukon Delta regions; and king salmon are predominant in the Northern region on the Yukon.6

Despite a slight decrease in salmon prices from 2008 to 2009, Alaska’s salmon fishery had the largest number of harvesting jobs in 2009, with an average of 3,830: a slight increase from the 2008 figure of 3,739.

On average, the salmon fishery employs about 54 percent of harvesting workers. However, due to the extreme seasonality of this fishery, it claims about 83 percent of all fish harvesting workers at its yearly peak.

Average monthly employment for the salmon fishery remained stable in 2009, gaining just 91 jobs. However, due to large summer peaks, the total worker pool was 17,932 people — an increase of 1,261 over 2008. (See Exhibit 5.)

**Halibut**
The trend in harvesting employment for the halibut fishery has continued its slow but steady decline. From 2008 to 2009, 132 average

<table>
<thead>
<tr>
<th>Fishery and Year</th>
<th>Individuals (Who Fished Permits)1</th>
<th>Percent (Nonresident Permit Holders)</th>
<th>Estimated Number of Crew Members</th>
<th>Total Estimated Workforce2</th>
<th>Total Gross Earnings of Permit Holders3</th>
<th>Percentage of Total Gross Earnings by Nonresident Permit Holders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crab 2006</td>
<td>486</td>
<td>25.7%</td>
<td>1,765</td>
<td>2,251</td>
<td>$110,660,029</td>
<td>70.4%</td>
</tr>
<tr>
<td>2007</td>
<td>456</td>
<td>23.2%</td>
<td>1,563</td>
<td>2,019</td>
<td>$168,591,117</td>
<td>70.5%</td>
</tr>
<tr>
<td>2008</td>
<td>468</td>
<td>26.5%</td>
<td>1,658</td>
<td>2,126</td>
<td>$241,015,434</td>
<td>76.4%</td>
</tr>
<tr>
<td>2009</td>
<td>465</td>
<td>26.9%</td>
<td>1,612</td>
<td>2,077</td>
<td>$180,540,771</td>
<td>76.6%</td>
</tr>
<tr>
<td>Groundfish/Other 2006</td>
<td>583</td>
<td>38.9%</td>
<td>2,482</td>
<td>3,065</td>
<td>$259,106,352</td>
<td>78.6%</td>
</tr>
<tr>
<td>2007</td>
<td>612</td>
<td>39.4%</td>
<td>2,602</td>
<td>3,214</td>
<td>$356,482,510</td>
<td>36.4%</td>
</tr>
<tr>
<td>2008</td>
<td>664</td>
<td>35.7%</td>
<td>2,741</td>
<td>3,405</td>
<td>$547,453,862</td>
<td>85.7%</td>
</tr>
<tr>
<td>2009</td>
<td>668</td>
<td>30.2%</td>
<td>2,645</td>
<td>3,313</td>
<td>$444,888,943</td>
<td>89.5%</td>
</tr>
<tr>
<td>Halibut 2006</td>
<td>2,209</td>
<td>18.9%</td>
<td>4,504</td>
<td>6,713</td>
<td>$197,454,034</td>
<td>32.0%</td>
</tr>
<tr>
<td>2007</td>
<td>2,249</td>
<td>18.9%</td>
<td>4,522</td>
<td>6,771</td>
<td>$215,631,109</td>
<td>32.7%</td>
</tr>
<tr>
<td>2008</td>
<td>2,123</td>
<td>19.2%</td>
<td>4,283</td>
<td>6,406</td>
<td>$206,488,880</td>
<td>32.7%</td>
</tr>
<tr>
<td>2009</td>
<td>2,135</td>
<td>18.8%</td>
<td>4,251</td>
<td>6,386</td>
<td>$135,817,648</td>
<td>33.7%</td>
</tr>
<tr>
<td>Sablefish 2006</td>
<td>660</td>
<td>31.5%</td>
<td>1,567</td>
<td>2,227</td>
<td>$76,450,614</td>
<td>48.8%</td>
</tr>
<tr>
<td>2007</td>
<td>647</td>
<td>31.7%</td>
<td>2,162</td>
<td>2,809</td>
<td>$74,970,755</td>
<td>50.2%</td>
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<tr>
<td>2008</td>
<td>639</td>
<td>31.6%</td>
<td>2,138</td>
<td>2,777</td>
<td>$77,925,245</td>
<td>45.5%</td>
</tr>
<tr>
<td>2009</td>
<td>661</td>
<td>30.9%</td>
<td>2,187</td>
<td>2,848</td>
<td>$72,507,648</td>
<td>47.5%</td>
</tr>
<tr>
<td>Herring 2006</td>
<td>330</td>
<td>16.7%</td>
<td>778</td>
<td>1,108</td>
<td>$9,847,180</td>
<td>22.1%</td>
</tr>
<tr>
<td>2007</td>
<td>257</td>
<td>17.1%</td>
<td>913</td>
<td>1,170</td>
<td>$14,822,700</td>
<td>21.4%</td>
</tr>
<tr>
<td>2008</td>
<td>336</td>
<td>17.6%</td>
<td>1,122</td>
<td>1,458</td>
<td>$23,004,150</td>
<td>17.9%</td>
</tr>
<tr>
<td>2009</td>
<td>393</td>
<td>20.4%</td>
<td>1,298</td>
<td>1,691</td>
<td>$23,416,301</td>
<td>28.1%</td>
</tr>
<tr>
<td>Miscellaneous Shellfish 2006</td>
<td>373</td>
<td>21.2%</td>
<td>297</td>
<td>670</td>
<td>$13,666,507</td>
<td>48.0%</td>
</tr>
<tr>
<td>2007</td>
<td>315</td>
<td>21.6%</td>
<td>542</td>
<td>857</td>
<td>$11,908,409</td>
<td>47.9%</td>
</tr>
<tr>
<td>2008</td>
<td>319</td>
<td>24.1%</td>
<td>534</td>
<td>853</td>
<td>$10,287,505</td>
<td>45.6%</td>
</tr>
<tr>
<td>2009</td>
<td>343</td>
<td>23.0%</td>
<td>593</td>
<td>936</td>
<td>$14,721,032</td>
<td>48.0%</td>
</tr>
<tr>
<td>Salmon 2006</td>
<td>6,884</td>
<td>26.0%</td>
<td>9,859</td>
<td>16,743</td>
<td>$313,164,123</td>
<td>35.2%</td>
</tr>
<tr>
<td>2007</td>
<td>6,857</td>
<td>27.0%</td>
<td>9,911</td>
<td>16,768</td>
<td>$346,622,891</td>
<td>36.0%</td>
</tr>
<tr>
<td>2008</td>
<td>6,797</td>
<td>26.9%</td>
<td>9,874</td>
<td>16,671</td>
<td>$367,167,052</td>
<td>34.2%</td>
</tr>
<tr>
<td>2009</td>
<td>7,323</td>
<td>27.5%</td>
<td>10,609</td>
<td>17,932</td>
<td>$344,752,605</td>
<td>38.9%</td>
</tr>
</tbody>
</table>

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6 For more information about Alaska’s seafood industry employment, go to the Research and Analysis Web site at: laborstats.alaska.gov, click on “Industry Information” in the left-hand column, then “Seafood Industry.” You can also access the Web site by visiting labor.alaska.gov and clicking on “Researchers” in the gold bar at the top.
monthly jobs were lost. This brought the average number of jobs to 1,047 for each month. The total workforce for the fishery was 6,386 — 20 fewer workers than in 2008.

**Sablefish**

Average monthly employment in the sablefish fishery has also continued to fall over the years. During 2009 there were 394 jobs per average month, a decrease of 17 from 2008.

Despite the decline in average employment, the total number of people involved in sablefish increased by 71. This brought the estimated number of sablefish harvesting workers to 2,848 in 2009.

**Herring**

Herring fishery employment grew last year, but it failed to completely recover the significant job losses it suffered in 2001 and 2006. During the 2006 fishing season, the herring fishery lost 103 jobs — nearly half the average monthly workforce.

In 2008, there was a small recovery movement that resulted in a modest increase of an estimated six jobs. In the most recent season, the herring fishery rebounded with strength, gaining 67 jobs. Herring also showed strong growth in the total number of workers in the fishery, with an estimated increase of 233 in harvesting.

**Miscellaneous shellfish**

The miscellaneous shellfish fishery continued its slow growth in 2009, gaining only five jobs. Although the employment of 126 people in 2009 is low historically, employment is recovering and re-approaching its 2002 high of 173 workers.

Despite the low average monthly employment in the miscellaneous shellfish fishery — which is dominated by shrimp, clams, and sea cucumbers — this sector has a large number of total workers. There are 936 people who harvested during 2009 — an increase of 83 over 2008.

**Groundfish**

The relatively stable year-round groundfish fishery supports the third-largest group of harvesting employees. The fishery has a secure and modestly growing employment base, representing about one-sixth of the annual average jobs in harvesting.

Average monthly groundfish employment declined from 2008 to 2009 after several years of modest
Methodology

Because fisheries data come from a variety of sources with varying lag times, harvesting estimates are not available as quickly as other data series the department publishes. For example, information on fish landings is reported annually, several months after the end of the calendar year. This can lead to a significant delay between the fish harvest and data publication.

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 permit over the year. A landing is the initial sale of harvested fish to a buyer. To create employment and workforce estimates from landings, the Department of Labor uses “crew factors” developed from surveys and industry research to quantify the labor needed to fish specific permits.

For example, the crew factor for an S04Y permit — a permit to fish for salmon in the Lower Yukon with gillnets — is two. So, if a landing is recorded under an S04Y permit, we attribute two workers to that permit. Each permit holder has a unique identifying number that allows the Department of Labor to assign only one set of workers to a specific permit holder, per permit, in any given calendar month even if there are numerous landings during the month.\(^1\)

We also assign the jobs by place of work rather than the residence of the workers. Most permits have a geographic designation where specific species can be harvested. In the above example of an S04Y permit, the “Y” stands for the Lower Yukon Region, regardless of what species is fished. All landings under that type of permit create employment in the ports of Western Alaska. Permits that allow fishing anywhere in the state receive a special harvest area code.\(^2\)

\(^1\) Another factor limiting employment data for 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. Agricultural employment has traditionally been excluded from employment statistics under this program.

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

The permit is the employer

We deem the permit itself 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. Considering the permit the employer rather than the permit holder is a slightly better approximation of how jobs and workers are counted in wage and salary numbers. If permit holders were the employers, it would incorrectly appear that they maintain identical crew for every permit.

Residency for harvesting is based on what permit holders claim when they purchase fishing permit applications. Permit holders are required to sign a statement saying that except for brief intervals, military service, or attendance at an educational or training institution, they have been in Alaska for the last 12 months and intend to stay within the state indefinitely. The applicants also may not receive any benefits as residents of another state, territory, or country. Permit holders who signed this statement are considered residents for this report.

Prep time doesn’t count

The harvesting employment estimates are conservative because 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. This is because the Department of Labor determines the months of work only by months with registered landings. So if the permit holder works for two weeks in May getting the boat ready and begins making landings in June, we don’t count the effort in May as employment despite its obvious importance to the enterprise.

A recent proposal by the Department of Fish and Game would collect actual crew counts associated with each landing, eliminating the need for crew factors and harvesting estimates. However, that proposal is undergoing further study.

In the coming year, the Department of Labor also plans to conduct a special survey of permit holders to obtain updated crew factors. The survey will collect additional information about the time spent preparing a vessel for fishing or working at the end of the season.

Many younger workers

The Department of Labor and Workforce and Development has access to more information about crew license holders than it has in the past. These additional data on Alaska vessels’ crews provide a more complete picture of the type of person who enters these challenging occupations.

This detailed information shows the number of workers employed in fish harvesting by age group.

growth. There were 3,313 groundfish harvesting workers during 2009, which was a drop from the 3,404 reported in 2008.

Crab

Crab fisheries in the state suffered a loss in monthly employment from 2008 to 2009. In 2009, 24 jobs were lost — a decrease of 5 percent from the previous year. The crab fishery also lost 49 harvesting workers last year.
About 47 percent of crew license holders are 29 or younger, supporting the observation that the fishing industry is a major employer of young workers in the state. (See Exhibit 7.) Only about 31 percent of all workers in wage and salary employment in 2009 were 29 or younger.

The summer peak in harvesting and processing employment coincides with summer break from school, making the fishing industry an attractive option for students. Permit holders, the other segment of harvesting workers, are much older than their crew, with an average age of 50 in 2009. (See Exhibit 7.)

Seafood processing workers also tend to be older than crew. In 2009, processing workers with age information (derived from historical Permanent Fund Dividend applicant data) reported an average age of 39 in 2008, close to the average age of 40 for all wage and salary workers.

Even though the mean age for all fishing workers is comparable to the statewide average, some individual fishing sectors are much more “youthful” — especially fish harvesting, which has a large peak of workers in their mid-20s.

**2010 looks promising**

Given the lag in available indicator data, these detailed employment and earnings estimates are for 2009 only. Once data collection for the current year draws to a close, we will be able to compare all of Alaska’s fisheries including its largest — groundfish and salmon — to see how the harvesting season played out in 2010.

However, preliminary data show a very large salmon harvest, outperforming last year’s and the five-year average. Most of the spike came from pink salmon harvesting in Prince William Sound. On a statewide basis, this should lead to higher estimated harvesting employment and an increase in the number of seafood processing workers compared to 2009 in the salmon fishery.

Groundfish catch reports also show similar jumps over the 2009 values. Because groundfish represents a majority of the fishing industry earnings in Alaska, the increase of 40,000 metric tons so far this year is further evidence of greater employment in fisheries in 2010.

**Summary**

Harvesting and seafood processing are an integral part of Alaska’s economy, employing tens of thousands of Alaskans. These employment estimates attempt to quantify the importance of this industry, which like other employment sectors has its own ebb and flow. Nevertheless, even with this less-than-record year, Alaska has higher earnings, higher employment, a larger workforce, and greater catch poundage than a decade ago.
Tips for seeking work as a crew member on Alaska fishing vessels

A tough search

There are many tales about people who easily landed a job as a crew member in Alaska’s fishing industry on a highliner fishing boat and made tons of money. There are also published materials for sale that boast of lucrative jobs in canneries and on fishing boats.

The reality is that for every success, there are many failures. A prospective crew member’s chance for a profitable season hinges on careful assessment of job openings and close attention to details on any offer.

A crew member position can be hard to get. During harvest seasons, prospective crew members must walk the fishing docks to follow up on each word-of-mouth lead and to speak with the skipper personally. The travel and waiting for such an opportunity can be costly, both physically and monetarily. Crew members rarely leave good jobs, so only a small percentage of hopefuls find their berth this way.

Employers seek crew who:

- Are available to work the full season or contract period
- Are physically able to stand and work long hours and move heavy objects
- Get along well with others in remote and often wet and cold conditions
- Are ready for hard work, are not chronic complainers, and have a positive attitude
- Follow directions and obey safety rules

Warnings

Commercial fishing is one of the most hazardous occupations in America. Reputable boat operators rarely have serious mishaps, nor do they lose good crew members through misunderstandings. Be wary of accepting a job on a vessel that has numerous crew vacancies during the harvest season. It’s a good idea to find out why the departed crew member(s) left.

Earnings

Minimum wage laws do not apply to crew member jobs in the industry. However, certain federal and state laws about hiring people under age 18 do apply.

Wages are often based on a share or percentage of harvest earnings. Newcomer deckhand earnings range from 1.5 percent to 10 percent of the adjusted gross catch depending on location, type of fishery, and the worker’s skills. Some vessels offer a daily rate from $50 to $100 instead of a percentage of the catch. Recent market conditions have caused some share rates to decline.

In addition to fishing, crew members are expected to work on their vessel and its associated gear without additional pay. The daily rate or a share or percentage of the catch is considered pay for all work performed. New crew members should obtain a signed work agreement or contract beforehand that clearly explains the pay and other entitlements.

Additional costs

Many boats charge crew members for a share of operating expenses. These may include food, fuel, bait, and ice. A crew member can also expect to purchase specialized apparel such as:

- Wet weather gear: $100 per set
- Rubber boots: $40 to $70 per pair
- Gloves: $2 to $12 per pair
- Wrist covers or sleeves: $5 per set
- Sleeping bag: $70 to $200

The fishing vessel owner/operator should provide other gear required by the Coast Guard, such as a survival suit. Make sure the vessel has a good safety reputation.

Crew members supply their own commercial fishing licenses. In 2010, commercial fishing license fees are $60 for a resident and $200 for a nonresident. The Alaska Department of Fish and Game offers license information and purchasing at: www.admin.adfg.state.ak.us/license.

Accommodations

On smaller vessels, the crew will eat, relax, and sleep with very little privacy. Toilet facilities on some vessels can be nonexistent or somewhat exposed, while on others there is a shower and toilet for individual use. Ask about these facilities if privacy is important.

Safety

Injury is possible in every aspect of a crew member’s work, and getting to the nearest clinic or hospital is totally dependent on the weather and availability of special transportation. The wait can be hours, or even days. Before accepting a job, ask about the safety equipment and procedures aboard the intended vessel.

Fishing vessels

Fishing vessels range from small skiffs of 20 feet to large factory trawlers of 300 feet or longer. The vessels may fish anywhere from near shore to 200 miles at sea. The larger river systems of the state also support skiff fisheries.

The size of the vessel has little bearing on the number of fishermen or deck crew required. For example, a 160-foot trawler can operate efficiently with five crew, which is about the same needed for a 58-foot purse seiner in the near-shore fishery.

Most of these vessels are based out of California, Oregon, and Washington, with a small number based in Alaska. These vessels are normally fully staffed before they depart.

Please use the ALEXsys site to search for jobs in the seafood industry:
http://alexsys.labor.state.ak.us/.

Source: Department of Labor and Workforce Development, Employment Security Division

NOVEMBER 2010 ALASKA ECONOMIC TRENDS